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Incidence and survival of primary dermatofibrosarcoma protuberans in the United States

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We sought to describe the incidence of and survival from primary dermatofibrosarcoma protuberans (DFSP) in the United States. We used data from the 18 registries of the Surveillance, Epidemiology, and End Results Program from 2000-2010 to calculate the incidence of and survival from primary DFSP. Overall incidence was 0.41 per 100,000 person years. Incidence remained steady over the study period. The trunk was the most common anatomic site for all age groups except for men over the age of 80. Incidence among women was 1.14 times higher than men (95% CI of rate ratio: 1.07-1.22). Incidence among blacks was almost 2 times the rate among whites (95% CI of rate ratio: 1.8-2.1). 10-year relative survival of DFSP was 99.1% (95% CI: 97.6% - 99.7%). Increasing age, male sex, and black race were associated with higher all-cause mortality. Anatomic location of the upper limb, lower limb, and head were associated with higher mortality as compared to the most common location of the trunk. The epidemiology of DFSP differs from most skin cancers. Our data show that incidence of DFSP has not changed over the last decade. Incidence among blacks is almost twice that of whites. This is the first report showing statistically higher incidence among women than men. Worse survival is associated with increased age, male sex, black race and anatomic location of the limbs and head.

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Intake of antihypertensives suspected, according to published reports, of triggering pemphigus by pemphigus patients: The large-scale problem

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While there are numerous case reports on antihypertensives (AH)-induced pemphigus, detailed studies showing the scale of the issue are needed. Here, the hospital records regarding AH intake of 117 patients with active IgG-mediated pemphigus (including 7 with malignancy-associated non-paraneoplastic pemphigus and 4 with cutaneous scarring-associated pemphigus), diagnosed with a combination of microscopic (H+E and direct immunofluorescence of perilesional tissue and plucked scalp hair with IgG4 deposits evaluation) and biochemical-molecular (ELISA for IgG/IgG4 antibodies to desmogleins 3/1) techniques, in the last thirteen years were analyzed in a setting of a Central Europe university dermatology department. Eight of 48 mucocutaneous (mc) pemphigus vulgaris (PV), 8 of 27 mucosal-dominant PV, none of 2 cutaneous PV, 13 of 38 pemphigus foliaceus (PF), and 1 of 2 mc PV shifting to PF cases were taking at least one AH suspected, according to published data, of inducing pemphigus. Ramipril and enalapril were the most frequently taken AH (each by 11 pemphigus patients), followed by captopril and indapamide (10 and 7 pemphigus patients, respectively). We suggest here, after evaluating clinical and laboratory data, both ours and literature, that the still poorly understood issue of so-called drug-induced pemphigus (DIP), which seems to be a large-scale problem necessitating ex vivo testing, should be subdivided at least into five categories: triggering of pemphigus autoimmunity by DIP-associated drugs without clinically overt pemphigus, DIP triggered exclusively by DIP-associated drugs, DIP triggered multifactorially including DIP-associated drugs, pemphigus triggered by not DIP-associated drugs with the course modified by DIP-associated drugs, idiopathic pemphigus with the course modified by DIP-associated drugs. Such a categorization might benefit patients, as they have variable severity and prognosis of their pemphigus, by individualizing their management.

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Appearance-based video education is more effective than health-based video education in promoting sunscreen use among adolescents: A randomized controlled trial

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Skin cancer prevention interventions include appearance-based or health-based messages to educate schoolchildren. The study objective was to compare the effectiveness of appearance-based video education with that of health-based video education in improving sunscreen use and knowledge. In a randomized controlled trial, participants viewed an appearance-based video on ultraviolet (UV)-induced premature aging or a health-based video emphasizing UV exposure and skin cancer risk. Sunscreen use was assessed at baseline and at 6-weeks post-intervention. A satisfaction survey asked subjects to rate the usefulness, appeal, and presentation quality of the videos. Fifty high school students participated in the study in 2012. Within-group analysis showed that the health-based video resulted in a non-significant increase in sunscreen use (0.9 ± 1.9 days per week, p=0.096). The appearance-based video resulted in a significant increase in sunscreen use (2.8 ± 2.2, p<0.001). Between-group comparisons revealed that those randomized to the appearance-based video applied sunscreen more often than those randomized to the health-based video (2.2 ± 1.4 versus 0.2 ± 0.6, p<0.001). Although knowledge significantly improved in both study groups after video education, the difference in improvement after 6-weeks was not significant between those randomized to the appearance-based video (1.2 ± 2.0) and health-based video (0.9 ± 1.7), p=0.651. The appearance-based video received a higher usefulness rating than the health-based video (8.1 ± 0.2 versus 6.4 ± 0.3, respectively; p<0.001). The appeal of the appearance-based video (8.3 ± 0.2) was also higher than the health-based video (6.6 ± 0.3, p<0.001). The quality rating between the appearance-based video (7.8 ± 0.3) and health-based video (8.1 ± 0.3) was not significantly different, p=0.517. Appearance-based education can improve sunscreen knowledge, promote sunscreen use, and be easily disseminated by video.

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Palmoplantar psoriasis is associated with greater impairment of health-related quality of life compared to moderate to severe plaque psoriasis: Results from the Dermatology Clinical Effectiveness Research Network (DCERN)

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Although palmoplantar psoriasis is often recognized as a potentially disabling variant of psoriasis, there are few data regarding its impact on health-related quality of life (HRQoL). In a cross-sectional study, we compared clinical characteristics and patient-reported outcomes in patients with palmoplantar psoriasis (N=66) and moderate to severe plaque psoriasis (N=1153) presenting at 10 dermatology sites across the US. All included patients were currently receiving systemic or light treatment for psoriasis. The outcomes were as follows: Dermatology Life Quality Index (DLQI) score > 5 (moderate-extremely large HRQoL impairment); EuroQol Health Questionnaire (EQ-5D) index score greater than the sample median; having problems associated with the five dimensions of EQ-5D (mobility, self-care, usual activities, pain, anxiety); and heavy topical prescription use (at least twice daily during the previous week). In adjusted analyses, patients with palmoplantar psoriasis were more likely to report DLQI scores that correspond to at least a moderate impact on quality of life (odds ratio [OR] 2.08; 95% confidence interval [CI], 1.20-3.61); problems with mobility (OR 1.98; 95% CI, 1.10-3.58), self-care (OR 3.12; 95% CI, 1.24-7.86), and usual activities (OR 2.47; 95% CI, 1.44-4.22); and heavy topical prescription use (OR 2.81; 95% CI, 1.63-4.85) than those with plaque psoriasis. Our findings suggest that patients with palmoplantar psoriasis suffer from greater HRQoL impairment and are more likely to report heavy use of topical prescriptions than those with moderate to severe plaque psoriasis.

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Eczema remains active with age

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This prospective observational cohort study aimed to examine the longitudinal course of disease activity in children with eczema. Self-reported disease control was assessed every six months for a median of 13 assessments (interquartile range 7-15) among 7,350 patients in the Pediatric Eczema Elective Registry with mild to moderate eczema. Seventy-three percent of participants reported onset of disease by two years of age. The mean age at enrollment was 7.4 years (standard deviation 4.2 years). The average level of control across the population by the age of visit remained fairly constant over time. There was a significant trend towards a slightly higher proportion of visits with complete control and a slightly lower proportion of visits with poor control, but no significant differences in good and limited control with increasing age. Overall, patients reported complete control at 13% of assessments; only 31% of the population ever reported a 6-month period with complete disease control during the observation period. Examining the combination of treatment with self-reported disease control showed that 25% of patients with >2 visits achieved at least one period of 'remission' (i.e., complete disease control and no use of prescription medications for eczema). Among these patients, 47% subsequently reported disease activity or medication use, suggesting that a minority of children outgrew their disease during the period of observation. The average number of visits to a health care provider for eczema decreased over time, even among patients who never achieved complete control of their disease, suggesting that patients may learn to manage their disease on their own.

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Validation and comparison of quality of life (QoL) measures for topical 5-fluorouracil treatment

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Skindex, a generic dermatology QoL instrument, and Skin Cancer Index (SCI), a skin cancer-specific QoL instrument, have not been compared in the skin cancer population and studied in topical 5-FU treatment. The VAKCC trial randomized 941 veterans with at least 2 prior keratinocyte carcinomas to either receive topical 5% 5-FU cream (n=472) or vehicle cream (n=469) on the face and ears twice daily for up to 4 weeks. Subscales of Skindex (emotion, symptom, function) and SCI (emotion, social, appearance) were compared at baseline, at 4 weeks, and at 1 year. All subscales of Skindex and SCI were significantly correlated with each other at baseline and at 4 weeks within treatment groups. Pearson's coefficients ranged from 0.60 to 0.89 between subscales within each QoL instrument and from -0.61 to -0.21 across the instruments (p <.001). In the 5-FU group at 4 weeks, the symptom and function subscales of Skindex and the social subscale of SCI were worse than their baselines (p <.001). In the vehicle cream group, the Skindex symptom and emotion subscales and the SCI emotion subscale improved at 4 weeks (p <.001, p =.01, and .03, respectively). The mixed effects model analyses, accounting for the high correlations among subscales and for subject random effects, showed that the Skindex symptom subscale at 4 weeks changed most from baseline in response to topical 5-FU treatment, followed by the Skindex function subscale (p <.001). All Skindex and SCI subscales returned to baseline at 1 year. 5-FU toxicity scores based on images and patient-reported symptoms in the 5-FU group at 4 weeks were correlated with the two QoL instruments, and they improved after intervention. Both Skindex and SCI measured the temporary negative effects of topical 5-FU, but the symptom and function subscales of Skindex were more responsive to the treatment than SCI subscales.

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Positive predictive value of the diagnostic code for hidradenitis suppurativa in an electronic database improves as number of codes increases

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Our goal was to validate the diagnosis of hidradenitis suppurativa (HS) in an electronic medical record database. The medical records of 1,168 patients who had received at least two International Classification of Disease, Ninth Revision 705.83 codes were manually screened and validated in chart review as having HS. The positive predictive value (PPV) was assessed by code frequency in 1-, 2-, 3-, and 5-year windows. 1,046 (89.6%) patients were confirmed as having HS. The mean age (standard deviation) was 44.0 (15.7) years, median age was 43.0 years, and 71.5% of patients were female. The majority was white (66.7%), while a significant minority was black (13.9%) or Hispanic (13.4%). Higher PPV was associated with an increasing total number of codes, rising as high as 97.3% (95% confidence interval [CI]: 95.3, 98.6) for 5 or more codes. PPV of receiving a code from a dermatologist was 90.7% (95% CI: 87.4, 93.3) compared to a PPV of 89.0% (95% CI: 86.5, 91.1) for a non-dermatologist entered code. The PPV of having 2 codes or having 4 or more codes remained stable within both 1- to 5-year time periods at 82.1% (95% CI: 78.1, 85.6) to 83.2% (95% CI: 79.3, 86.6) and 97.0% (95% CI: 94.9, 98.4) to 96.6% (95% CI: 94.7, 97.9), respectively. Three codes in a 1-year time window had a PPV of 89.2% (95% CI: 83.5, 93.5) that decreased to 86.0% (95% CI: 80.2, 90.7) at 2 years and 86.2% (95% CI: 80.5, 90.8) at 5 years. Establishing the validity of diagnostic codes in electronic databases is a crucial step for subsequent studies utilizing these databases.

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Patient-reported outcomes differ between psoriasis patients with clear and almost clear skin in the routine clinical practice setting: Results from the Dermatology Clinical Effectiveness Research Network

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There is little evidence to guide the establishment of treatment goals for patients with moderate to severe psoriasis in the clinical setting. Psoriasis Area and Severity Index (PASI)-75 is the mostly widely used measure of clinical efficacy for psoriasis therapies. The proportion of patients with clear or almost clear skin based on Physician Global Assessment (PGA) is also increasingly used as a measure of clinical efficacy. It is uncertain if important differences exist between patients with clear and almost clear skin, especially from the patient perspective. The aim of this study was to determine if differences in the patient-reported Dermatology Life Quality Index (DLQI) score exist between psoriasis patients with clear and almost clear skin. We conducted a cross-sectional study of 538 patients with moderate to severe plaque psoriasis and with clear (PGA=0 or PASI=0) or almost clear (0<PGA<1.5 or 0<PASI<3) skin at 10 centers in the U.S. In unadjusted analyses, patients with clear skin reported a significantly lower median DLQI score (0; interquartile range, 0-1) than patients with almost clear skin (2; 0-5; p<0.001). Patients with clear skin were more likely to not have used prescription topical medications in the preceding week compared to patients with almost clear skin (clear 22.7%; almost clear 65.5%; p<0.001). In adjusted analyses, patients with clear skin were more likely to report no effect (DLQI≤1) of psoriasis on their quality of life (QoL) than patients with almost clear skin (relative risk 1.60; 95% confidence interval, 1.37-1.86). Our results suggest that clearance of psoriasis abrogates the negative impact that active psoriasis has on a patient's QoL and may be an important endpoint in the clinical setting.

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Factors associated with being clear/almost clear of psoriasis in patients receiving adalimumab, etanercept, or methotrexate as part of routine clinical care

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While treatment options for psoriasis continue to expand, little is known about clinical factors that predict therapeutic response. Our goal was to identify which patient-related factors are associated with a favorable clinical response to therapy. We conducted a cross-sectional study of patients who were receiving adalimumab (N=148), etanercept (N=174), or methotrexate (N=163) for the primary indication of plaque psoriasis, evaluated in routine clinical care at 10 dermatology sites across the US. We assessed 38 clinical variables for their associations with being clear/almost clear of psoriasis. For the TNF inhibitors, having a normal or underweight body mass index was associated with an increased odds of being clear/almost clear compared to patients who were obese (adalimumab adjusted odds ratio [OR] 4.33; 95% confidence interval [CI], 1.64-11.47; and etanercept adjusted OR 2.79; 95% CI, 1.16-6.76). For methotrexate, women were more likely to be clear/almost clear compared to men (adjusted OR 3.29; 95% CI, 1.30-8.33). All other examined factors including age of psoriasis onset, psoriasis duration, total number of comorbidities, prior treatment history, psoriasis extent at its worst, and family history of psoriasis were not significantly associated with being clear/almost clear for any of these treatments. Our results indicate obesity to be associated with poor response to adalimumab and etanercept therapy, suggesting the need for weight based dosing of these biologics. We also found female sex to be the only clinical factor associated with a better response to methotrexate - a new finding that deserves further study.

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Buying indoor UV tanning with university debit cards

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The booming indoor ultraviolet (UV) tanning industry in the United States is linked with morbid consequences; studies demonstrate the association between indoor tanning and skin cancer. This study determined the degree of affiliation between university debit cards and indoor UV tanning retailers. The two largest residential universities in each state were identified through Collegeboard.org and web searches were conducted to obtain information regarding university debit cards. Eighteen of 96 (18.75%) universities listed indoor tanning merchants as retailers that accept their debit cards, with 11 listing more than one indoor tanning salon (range 1-8). Of note, universities linked with tanning salons were concentrated exclusively in the east and south of the United States. University agreements with tanning salons constitute endorsements of indoor tanning, which has been designated as a carcinogen by the World Health Organization. We call for all universities to limit the purchasing of indoor UV tanning and related products with university debit cards.

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Greater utilization of high-cost care settings by patients with hidradentitis suppurativa

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The objective of this study is to assess how individuals with hidradenitis suppurativa (HS) utilize medical care in order to identify opportunities to improve the value and efficiency of care. A retrospective analysis of a medical claims database from 2008 to 2010 was performed to identify claims by patients with HS, psoriasis, and a control group of patients with neither condition. Direct costs were calculated as all-cause cost for the three-year period; patient and indirect costs were not included. Amounts are reported in 2010 US dollars and were adjusted for inflation. The largest component of the total 3-year cost for the HS group was inpatient cost (37.4%). In contrast, the largest component for the psoriasis group was drug costs (46.5%) and for the control group was inpatient costs (40.9%). The proportion of patients that utilized the emergency department (ED) over the 3-year period was higher in the HS cohort (27%) than the psoriasis (17%) or control groups (17%), (p<0.001). Similarly, the mean (SD) 3-year ED cost for the HS group was $2,002 ($6,632) and was higher than both comparison groups. After adjustment for age and gender, ED cost remained higher in the HS group (p<0.0001). The proportion of people in the HS cohort (16%) that were hospitalized was higher than the psoriasis (11%) or control (9%) groups (p<0.0001). Mean inpatient costs were similar for the 3 groups (p=0.99). One of the drivers of increased health care spending is the inappropriate use of high-cost care settings, such as inpatient and ED settings, for conditions such as HS that can be managed in an outpatient setting. High ED utilization by the HS cohort suggests that there is an opportunity to investigate the drivers behind ED utilization. Possible actions include timely communication with patients, ensuring outpatient access for acute disease flares, and educating providers and patients.

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Representation of the top three most disabling skin diseases in *the cochrane database of systematic reviews*

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The Global Burden of Disease (GBD) 2010 project established dermatitis, acne vulgaris, and bacterial skin diseases as the three most disabling skin conditions globally using the metric of disability-adjusted life years (DALY). We sought to determine whether topics in The Cochrane Database of Systematic Reviews reflect this disease burden. Two investigators independently matched systematic review and protocol representation of 15 skin conditions studied by GBD in The Cochrane Database of Systematic Reviews with their respective disability, measured in DALY metrics from GBD 2010. All 15 skin conditions were represented by at least one systematic review in The Cochrane Database of Systematic Reviews. Dermatitis was well matched with the most reviews and protocols and highest disability. The next two most disabling diseases, acne vulgaris and bacterial skin diseases, were under-represented. Similarly, urticaria, pruritus, scabies, cellulitis, and alopecia areata were under-represented while decubitus ulcer, psoriasis, and leprosy were over-represented when matched with corresponding disability estimates. Viral and fungal skin diseases, melanoma, and non-melanoma skin cancer were proportionately represented. Disease disability will influence future work priorities in The Cochrane Database of Systematic Reviews. Other factors influencing prioritization will include whether disease disproportionately affects disadvantaged populations, cost, availability and lack of cost-effective interventions, interest-group advocacy, disease transmissibility, public interest, opportunity for scientific innovation, and infrastructure building. Our results provide new transparent data to inform future prioritization decisions.

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Langerhans cell histiocytosis and hematological malignancy: A Mayo Clinic experience

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The goal of this study is to identify patients diagnosed with Langerhans cell histiocytosis (LCH) and determine the incidence of patients who had concurrent hematological malignancy. Due to the varied clinical course of LCH, there have been efforts to distinguish high-risk patients and predict disease progression based on organ system involvement. Previous studies have reported worse prognosis with involvement of 'risk organs' such as the hematopoietic system, however, the incidence of hematological malignancy in LCH patients is unknown. We identified 58 Mayo Clinic patient records with a final diagnosis of LCH (or equivalent term) and hematological malignancy. Review of paper and electronic medical records identified 19 patients with biopsy-proven LCH. 13 of these patients (68%) had both biopsy-proven LCH and hematological malignancy. There were 6 males and 7 females with ages ranging from one to 81 years (median age of 53) at the time of LCH diagnosis. 5 of 13 patients were diagnosed with a hematological malignancy within one year of their LCH diagnosis. At least two patients had received chemotherapy, radiation therapy, or both. Hematological malignancies included acute myelogenous leukemia, non-Hodgkin's and Hodgkin's lymphoma, cutaneous T-cell lymphoma, hairy cell leukemia, multiple myeloma, and chronic myelomonocytic leukemia. We report a significant association of LCH with hematological malignancy. These findings suggest possible underlying shared mechanisms of clonal development of LCH and hematological malignancies and genomic instability or immune related mechanisms related to LCH that induce or facilitate leukemogenesis or lymphomagenesis. This study supports the need for regular ongoing surveillance as well as further investigation of secondary malignancies in patients with LCH.

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Clinical manifestations in Behçet's disease: A retrospective chart review

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Behçet's disease is a chronic, inflammatory, vascular disorder of an unknown etiology. Its prevalence varies depending upon the geographic region and ethnicities. It can affect multiple organ systems including cardiac, neurologic and pulmonary. Delayed diagnosis and treatment can increase its morbidity and mortality rate. The literature is scarce on the clinical presentations of Behçet's disease in the United States. The aim of this study is to determine the occurrence of clinical hallmarks in a cohort of 59 patient with a diagnosis of Behçet's disease at the University of California, Davis. A retrospective chart review of the 59 patients was performed during a 10 year period (2003-2013). The International Criteria for Behçet's Disease was utilized to include patients with a point score of five or more. Clinical features of the patients were collected, and the time order of manifestations was recorded, if possible. Mucocutaneous ulcers were the most common manifestation of the disease followed by articular and ocular involvement. Additionally, oral ulcers were the most common presenting sign of the disease followed by genital ulcers. These results paired with previous reports suggest that patients with oral and genital ulcers require close clinical surveillance for the appearance of other clinical manifestations and possible evolution into Behçet's disease.

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The prevalence of pigmentary disorders among women in Shanghai, China is high

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Background: Disorders of pigmentation are common, but little is known about their prevalence. Objective: To determine the prevalence of pigmentary disorders among women in Shanghai, China Methods: A self-diagnostic tool was developed and validated in 82 Asian women. Subsequently, 9000 women were approached in Shanghai, China, from which 600 women agreed to use the tool for self-diagnosis of pigmentary disorders. Results: The prevalence of lentigines, melasma and post-inflammatory hyperpigmentation was 41.7%, 18.5%, and 10.5%, respectively. Limitations: Generalizability of results is limited to Chinese women living in Shanghai. Conclusion: The prevalence of pigmentary disorders among women in Shanghai, China is high. The self-diagnostic tool developed in this study is reliable and valid for diagnosing pigmentary disorders in Asian women. Future studies should be performed with this tool to determine prevalence of these disorders in Asian women in other areas of the world.

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Indoor air pollution from cooking with coal or firewood accelerates skin aging in northern Chinese women

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Recently we showed that exposure to outdoor air pollution from traffic and industry is associated with an increased risk for skin aging in German women. In the present cross-sectional study we studied 403 Chinese women from 30 to 80 years old to assess the association between indoor air pollution from cooking with coal or firewood and skin aging in Chinese women from a northern, rural area of China. Skin aging was evaluated by a validated tool, the SCINEXA™. Indoor air pollution exposure, sun exposure, smoking and other confounders were assessed by validated questionnaires. In adjusted linear and logistic regression analyses we tested the association between indoor air pollution and skin aging. We found that indoor air pollution was significantly associated with an increased appearance of wrinkles on the forehead ($p=0.03$), wrinkles under the eyes ($p=0.002$), and wrinkles on the upper lip ($p=0.030$), frown lines ($p=0.006$), depth of the nasolabial fold ($p<0.001$), telangiectasia ($p<0.001$), laxity of eyelids ($p<0.001$), cheek laxity ($p=0.003$), pigment spots on back of arms ($p=0.003$) and hands ($p=0.003$), uneven pigmentation on bottom side of the arm ($p=0.039$) and fine wrinkles on back of hands ($p<0.001$). Previously, in German women, we observed a significant increase in the nasolabial fold depth with an increase in outdoor air pollution, but also a pronounced increase of pigment spots on face, which we did not observe in the present study in Chinese women. The present study thus corroborates our previous finding that air pollution is associated with skin aging and extends it by showing that (i) indoor air pollution might be another risk factor for skin aging and that (ii) ethnic differences might influence the clinical manifestation of pollution-driven skin aging.

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Non-melanoma skin cancer and NSAID use in women with a history of skin cancer in the Women's Health Initiative (WHI)

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Non-steroidal anti-inflammatory drugs (NSAIDs) are associated with a decreased risk of a variety of malignancies. However, data on the effect of NSAIDs on non-melanoma skin cancer (NMSC) risk are inconsistent. We prospectively examined whether regular NSAID or acetaminophen use is associated with a lower risk of NMSC in the Women's Health Initiative (WHI) Observational Study (OS). Regular (use at baseline and year 3), inconsistent (use only at baseline or year 3), or no/low-use of NSAIDs (<2 times/week) was assessed among 54,728 postmenopausal Caucasian women aged 50-79 years. Logistic regression models were used to assess odds of NMSC after adjusting for skin type, sun exposure history and indication for NSAID use among other confounders. During a median follow-up period of 6.9 years there were 7,652 incident cases of NMSC. There was no association between regular use of any NSAID and the risk of NMSC relative to no/low-users. However, in a subgroup analysis of 5,488 women with a history of skin cancer, relative to no/low users, odds of NMSC were lower among regular NSAID users whether <5 years (OR 0.82, 95% CI: 0.70-0.95) or ≥ 5 years (OR 0.82, 95% CI: 0.69–0.98) of use. Inconsistent NSAID use and acetaminophen use were not associated with risk of NMSC. In women with a history of skin cancer, regular NSAID use was associated with 18% lower odds of NMSC. Further clinical studies are warranted to investigate the chemopreventative effects of NSAIDs in those at high risk for developing NMSC.

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Female gender and acne disease are jointly and independently associated with the risk of major depression and suicide: A national population-based study

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Acne is a common disease in adolescence with female preponderance. It could cause poor self-esteem and social phobia. Previous studies based on questionnaires from several thousand adolescents showed that acne is associated with major depression and suicide. However, the gender- and age-specific risk of depression and suicide in patients with acne remains elusive. Using a database from National Health Insurance, which included 98% of population of Taiwan in 2006, we identified patients of acne, major depression, and suicide based on ICD-9-CM codes. Totally 47111 patients with acne were identified (16568 males and 30543 females) from 1 million subjects. The youths 7-12 years had the highest prevalence of acne (14.39%). Major depression were more common in those with acne (0.77%) than controls (0.56%, $p<0.0001$) regardless of gender. Multiple logistic regression showed an increased risk to major depression in women without acne (OR=1.85, 95% CI 1.75-1.96). The risk is additive in women with acne (OR=2.78, 95% CI 2.43-3.17). Similar additive risk of suicide was noticed in women with acne. In conclusion, acne and gender, independently and jointly, are associated with major depression and suicide. Special medical support should be warranted in females with acne for the risk of major depression and suicide.

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The presence of T-cell clonality at presentation with mycosis fungoides is not influenced by patient gender or age

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The presence of clonal rearrangement of the T-cell receptor gamma (TCR-gamma) chain gene by polymerase chain reaction may serve as an adjuvant tool in the diagnosis of Mycosis Fungoides (MF). Recent data suggest that the incidence and prognosis of MF differs between Caucasian and African American (AA) patients, and particularly AA women who present before age 40. Clonality differences between races and age groups at presentation have not been published. A retrospective analysis of patients with MF seen in the Johns Hopkins Dermatology Clinics in Baltimore, MD, from 2000 to 2010 was performed with specific attention to gender, race, stage at presentation and clonality. A total of 312 patients, 209 Caucasian and 103 AA were identified. The mean age of Caucasian males, females and AA males and females was 55.5, 55.7, 47.4 and 44.4, respectively. Caucasian and AA patients presented with stage IA (n=105, 50.2% and n=31, 30.1%), IB (n=39, 18.7% and n=37, 35.9%), IIA (n=10, 4.8% and n=3, 2.9%), IIB (n=10, 4.8% and n=14, 13.6%), III (n=26, 12.4% and n=7, 6.9%), IVA (n=15, 7.2% and n=8, 7.8%), and IVB (n=2, 1.0% and n=2, 1.9%), respectively. Clonality, when tested, was present among 68 (32.5%) and 29 (28.2%) Caucasian and AA patients, respectively (p=0.21). Similarly, clonality was detected in 21 (25.6%) and 76 (33.0%) patients younger and older than 40 years of age, respectively (p=0.24). The presence of clonality at presentation with MF does not appear to correlate with either the age or race of the patient.

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Longitudinally followed nevi in children and adolescents show significant size changes

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While change in size is a recognized feature of melanoma, change in nevus size during childhood and adolescence is a part of normal growth. The objective of this study was to quantify the spectrum of size changes among existing and new nevi during childhood, stratified by dermoscopic pattern. The sample included a cohort of children in Framingham, Massachusetts, whose nevi were longitudinally monitored between 5th and 11th grades. Study nevi were imaged at baseline and at each follow-up examination. These images, captured across different time points, were subsequently placed side-by-side for purposes of comparison. Nevus size was measured as surface area using a manual segmentation tool (Seg 3D). A total of 404 existing nevi in 136 children were followed from 5th to 11th grade and a total of 121 new nevi in a subset of 92 children were followed from 8th or 9th to 11th grade. Using a threshold of 50% or greater change in surface area, nevus size change in existing nevi differs significantly by dermoscopic pattern. 18% of reticular v.7% of globular nevi decreased in size while 52% of reticular v. 65% of globular nevi increased in size (p=0.02). These differences were even more pronounced for the subset of nevi (n=135) with the greatest area at baseline (top tertile) with 25% of reticular v. 1% of globular lesions decreasing in size and 33% of reticular v. 65% of globular lesions increasing in size (p=0.001). This trend was consistent across various followup time intervals. A similar trend was observed for new nevi with 36% of reticular v. 48% of globular nevi increasing in size, while 11% of reticular v. 5% of globular nevi decreased in size (p=0.33). These findings demonstrate that nevi in children are dynamic, frequently manifesting size changes. The observation that globular nevi are more likely to increase in size than reticular nevi may reflect distinct biologic pathways in these subsets of nevi.

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Hotspots of CTCL cases in Houston and Texas: A comparison of the MD Anderson and Texas cancer registries

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Cutaneous T-Cell Lymphoma (CTCL) is a rare cancer with a documented incidence of ~4-8 cases per million individuals per year. Currently, the pathogenesis of CTCL remains only partially understood. Reports of incidence in married couples and families raise a possibility that there might be an important environmental trigger for this disease. However, to date no unequivocal geographic hotspots have been documented for this cancer. We analyzed by region, zip code, age and ethnicity the demographic data of 1047 patients from Texas, who were seen in a CTCL clinic at the MD Anderson Cancer Center (MDACC) during 2000-2012. In addition de-identified data on CTCL incidence was requested from the Texas Cancer Registry (TCR) database and similar analyses were performed on 1970 patients with MF and SS that were registered in that database between 1995-2010. Subsequently both data sets were cross analyzed and compared. Our findings, based on the MDACC database results, document geographic clustering of patients in three communities within the Houston metropolitan area, in which the CTCL incidence rates were 10-50 times higher than the expected population rate. Moreover, analysis of incidence rates in these communities over time suggests a significant increase in the disease after ~2005. The data results from the TCR database defined the CTCL population rate for the state to be 5.57 [CI 5.34; 5.83] cases per million per year. Furthermore, the TCR database confirmed the above findings and highlighted 4 additional putative geographic hotspots for CTCL within the state of Texas, but outside the Houston metropolitan area. Identification of geographic clustering for CTCL argues for existence of yet unknown external causes in triggering this rare cancer.

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Itch prevalence and characteristics in hispanic geriatric population: A comprehensive study using a validated itch questionnaire

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Introduction: There is limited data regarding the prevalence and clinical characteristics of chronic itch in the elderly. Objectives: A comprehensive description of the prevalence and clinical characteristics of pruritus affecting Hispanic geriatric subjects using a validated itch questionnaire. Methods: 302 geriatric patients without dementia were evaluated using a validated itch intensity and characteristic questionnaire. Patients were examined and assessed for itch-related dermatoses. Underlying systemic diseases were obtained from medical records. Results: Chronic itch was a common symptom experienced by 25% of subjects. Out of the patients who reported chronic itch, 69% had xerosis, 28% had itch-related dermatoses and 96% had documented comorbidities. The most common comorbidities were Diabetes mellitus (DM) and chronic venous insufficiency (CVI). The most common areas where patients experienced itch were: legs (54%), back (45%), scalp (28%) and arms (27%). Patients reported experiencing the greatest amount of itch in the winter (77%) and during the night (65%). Conclusion: Chronic itch is a common problem in Hispanic geriatric population, with significant associations to dry skin, DM and CVI.

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Feasibility, validity, and reliability of pediatric pruritus-specific outcome measures

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Further development of pruritus-specific patient reported outcomes include two age-appropriate quality of life questionnaires: a cartoon version for ages 4-7 (TotsItchyQoL) and a text version for ages 8-17 (KidsItchyQoL). A cartoon-enhanced numeric rating severity scale (ItchyQuant) was also developed for pediatric use and for adults who may not be able to utilize the usual visual analog scale (VAS). In this study, we examined the reliability and feasibility of the pediatric ItchyQoL and ItchyQuant. Children with chronic itch (>6 weeks) were approached in dermatology clinic; consenting patients completed the appropriate version of the ItchyQoL at baseline and two follow-up visits. The duration of the first time the survey was administered was measured to determine feasibility. Data from baseline and second administrations were used to test question items for reliability using Cronbach's alpha coefficient (α, desired> 0.7) and for reproducibility using intraclass correlation coefficient (ICC, desired >0.7). To validate the ItchyQuant, we approached adult patients with chronic itch in dermatology clinic and had them complete both the usual VAS and the ItchyQuant, separated by a questionnaire. The Pearson Correlation Coefficient (r) was used to establish the strength of the linear relationship between the VAS and ItchyQuant values. Mean duration was 7 minutes, 8 seconds for TotsItchyQoL (n=6) and 5 minutes, 23 seconds for KidsItchyQoL (n=19). Reliability and reproducibility were tested for the KidsItchyQoL (α=0.93, ICC=0.66, p=0.03) but could not be tested for TotsItchyQoL due to low number of subjects. 20 adult patients completed both the usual VAS and ItchyQuant, with r=0.88. Preliminary conclusions indicate feasibility (<8 minutes) for the pediatric ItchyQoL instruments as well as excellent reliability and reproducibility in the older age group. Validity of the ItchyQuant is still unknown in children, but promising in adults.

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Ethnic differences and environmental factors in skin aging

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Environmental factors may interact with different genetic backgrounds to impact skin aging. In this study, we (i) compared ethnic differences in skin aging between Chinese and German women and (ii) explored environmental factors in both populations. Chinese and German women 65-90 years old were recruited and skin aging was assessed by the SCINEXA™. In adjusted regression analysis, we found that wrinkles under eyes (p<0.001), on upper lips (p=0.001) as well as laxity of eyelids (p=0.025) and cheeks (p<0.001) were more pronounced in Germans; while wrinkles on forehead (p<0.001) and nasolabial folds (p=0.002) were more pronounced in Chinese. Chinese showed larger pigment spots on forehead (p<0.001) and on cheeks (p<0.001); while Germans had larger number of pigment spots on arms (p<0.001) and hands (p=0.001). Skin aging signs were affected by environmental factors: sun exposure, smoking, alcohol consumption, education, pregnancy, use of contraception, and use of fossil fuels. Sun exposure had a more significant effect in Germans, affecting 12 skin aging signs, particularly signs related to pigment spots. In Chinese, indoor air pollution from cooking had a greater effect, affecting 7 skin aging signs. Cooking with fossil fuels primarily affected wrinkle related signs, including wrinkles on forehead (p<0.001), in the crow's feet area (p=0.001), on upper lip (p<0.036) and nasolabial fold (p<0.001) as well as laxity of eyelids (p=0.007), laxity of cheeks (p=0.019) and fine wrinkles on hands (p=0.027). Our results confirm previous published findings that air pollution accelerates the appearance of skin aging symptoms. They also suggest that clinical manifestations of skin aging are modified by the type of pollution (indoor versus outdoor) as well as the ethnic background (Chinese versus Caucasian), indicating the existence of gene/environment interactions.

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Adiponectin deficiency may cause decreased ATP synthesis and lower pH, leading to abnormal muscle contraction and skin sensitivity in sensitive skin

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Sensitive skin represents hyperactive sensory symptoms showing exaggerated reactions in response to external irritants. Although sensitive skin is a very common condition affecting an estimated 50% of the population, its pathophysiology remains largely elusive. To investigate the pathogenesis of sensitive skin, healthy subjects with 'sensitive' or 'non-sensitive' skin were recruited based on standardized questionnaires and 10% lactic acid stinging test, and their skin samples were obtained following lactic acid or normal saline treatment. Subsequent transcriptome analysis revealed that genes involved in muscle contraction, carbohydrate and lipid metabolism, and ion transport and ionic balance were significantly decreased in sensitive skin. These altered genes could account for the abnormal muscle contraction, decreased ATP amount and lower pH observed in sensitive skin. In addition, pain-related transcripts such as TRPV1, ASIC3 and CGRP were significantly upregulated in sensitive skin, compared with non-sensitive skin. Interestingly, we also found that adiponectin (ADIPOQ) was significantly down-regulated in sensitive skin, and knockdown of ADIPOQ in RD cells could recapitulate the aforementioned gene signature and physiologic alterations in sensitive skin *in vivo*. On the other hand, treatment of RD cells with ADIPOQ reduced the expression of TRPV1, CGRP and ASIC3, which were increased by knockdown of ADIPOQ. Our findings suggest that ADIPOQ deficiency may play a critical role in the development of sensitive skin.

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The epidemiology of concomitant hidradenitis and psoriasis: Experience of a tertiary care center

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Hidradenitis suppurativa (HS) and psoriasis (Ps) are chronic disorders in which common inflammatory pathways including IL-12, IL-23, and TNF-α have been implicated. Currently, limited data exists on the co-occurrence of these two conditions; we therefore sought to describe the characteristics of individuals with concomitant HS and Ps, seen at a tertiary care center. We conducted a retrospective analysis of all medical records within the Research Patient Data Repository . We identified 56 individuals with a diagnosis of both HS and Ps made by a board-certified dermatologist at Brigham and Women's Hospital between January 2000 and June 2010. Of these 56 patients, 84% were female, 70.1% were white, 14.0% were black, 8.8% were Hispanic, and 3.5% were Asian. We also matched 169 controls for gender, age, and race. The mean BMI for patients with both HS and Ps was 34.1, compared to 27.1 in the control group (p<0.001). Hypertension was diagnosed or treated in 46.4% of patients with HS and Ps compared to 15.5% of the controls (p<0.001). Diabetes mellitus was diagnosed or treated in 23.3% of patients with HS and Ps compared to 7.7 % of the controls (p=0.002). Additionally, 14.3% of patients with both HS and Ps had inflammatory bowel disease, compared to 1.4% of patients in the control group (p<0.001). Overall, 39.3% of individuals with HS and Ps were current smokers, compared to 13.1% of the controls (p<0.001). Notably, we found that 40.4% of individuals with both HS and Ps had been diagnosed with and/or treated for depression compared to 19.0% of the controls (p<0.001). The psoriasis sub-types among the HS and Ps patients mirrored the distribution observed in the general psoriasis population. In this study, we describe a group of individuals with concomitant HS and psoriasis, in which we found a predominance of women, significantly elevated BMI, higher proportion of current smokers, and high rates of hypertension, diabetes, inflammatory bowel disease, and depression.

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Sildenafil use and increased risk of incident melanoma in US men: A prospective cohort study

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Background: The RAS/RAF/MEK/ERK cascade plays a crucial role in melanoma cell proliferation and survival. Sildenafil (Viagra) is a phosphodiesterase (PDE) 5A inhibitor commonly used for erectile dysfunction. Recent studies have shown that BRAF activation down-regulates PDE5A levels, and low PDE5A expression by BRAF activation or sildenafil use increases the invasiveness of melanoma cells, which raises the possible adverse effect of sildenafil use on melanoma risk. Objective: To evaluate the association between sildenafil use and risk of incident melanoma among men in the US in a prospective cohort study. Methods: In 2000, participants in the Health Professionals' Follow-up Study were inquired regarding sildenafil use for erectile dysfunction. Participants who reported cancers at baseline were excluded. A total of 25,848 men remained. Incidence of skin cancers, including melanoma, squamous cell carcinoma (SCC), and basal cell carcinoma (BCC) was obtained in the self-reported questionnaires biennially. The diagnosis of melanoma and SCC was pathologically confirmed. Results: We identified 142 melanoma, 580 SCC, and 3,030 BCC cases during the follow-up (2000-2010). Sildenafil recent use at baseline was significantly associated with an increased risk of subsequent melanoma with a multivariate-adjusted hazard ratio (HR) of 1.84 (95% confidence interval (CI):1.04-3.22). In contrast, we did not observe an increase in risk of SCC (HR=0.84, 95%CI:0.59-1.20), or BCC (HR=1.08, 95%CI:0.93-1.25) associated with sildenafil use. Moreover, erectile function itself was not associated with an altered risk of melanoma. Ever use of sildenafil was also associated with a higher risk of melanoma (HR=1.92; 95%CI:1.14-3.22). A secondary analysis which excluded those reporting major chronic diseases at baseline did not appreciably change the findings; the HR (95% CI) of melanoma was 2.24(1.05-4.78) for sildenafil use at baseline and 2.77(1.32-5.85) for sildenafil ever use. Conclusions: Sildenafil use may be associated with an increased risk of developing melanoma.

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Non-melanoma skin cancer is associated with increased risk of fractures

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Patients with NMSC have been shown to have lower vitamin D levels due to sun avoidance and protection. Low vitamin D levels can lead to fractures. We assessed whether post-menopausal women with a history of NMSC have an increased risk of fractures in a prospective cohort study of 73,645 women from the Women's Health Initiative. We followed 4,289 women with NMSC and 67,470 without history of NMSC for 10 years for new hip, spine, and lower arm fractures. Women with prior history of fracture, systemic steroid use, hip replacement, and new skin cancer during follow-up were excluded. Hazard ratios (HR) and 95% confidence intervals (CI) were computed from Cox proportional hazards models. In age-adjusted models, women with history of NMSC had a higher risk of hip (HR 1.55, 1.31-1.85 95% CI, P<0.0001), spine (1.29, 1.10-1.51, P=0.0018), and lower arm (1.28, 1.13-1.45, P<0.0001) fracture. In models adjusted for sun exposure, sun screen use, vitamin D intake, physical activity, and other risk factors for fractures, only lower arm fracture remained statistically significantly associated with NMSC (HR 1.16, 1.31-1.85 95% CI, P=0.022) with hip fracture trending toward significance (1.18, 0.99-1.41, 0.06). A subset of women (N=4,267) had bone marrow density (BMD) scans, and there was no association between history of NMSC and hip BMD at baseline. These results suggest that prior history of NMSC is associated with an increased risk of subsequent bone fracture, contrary to our hypothesis. Increased fracture risk may be secondary to sun avoidance after NMSC diagnosis.

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Health care utilization prior to diagnosis as a predictor of melanoma-specific mortality

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The objective of this study was to examine the relationship of melanoma-specific mortality with pre-diagnosis health care utilization and preventive care compliance in a large health maintenance organization (HMO), where all enrollees would have presumable opportunity and equal access for receipt of care. A retrospective observational cohort of individuals from 2001-2007 was identified using the electronic HMO administrative databases, including information on patient demographics, US Census socioeconomic estimates, and healthcare utilization. Cutaneous malignant melanoma diagnosis and vital status were ascertained from the HMO Tumor Registry and the corresponding SEER Registry. Multivariate Cox regression estimates were calculated. 251 patients were identified with a mean age of 60.6 years. The majority of patients were white (96%), male (63%), and had localized disease (63%). Melanoma-specific mortality was significantly decreased in those who had a screening lipid panel (unadj HR 0.3 (0.1-0.9)) or colonoscopy screening prior to diagnosis (unadj HR 0.3 (0.1-0.8)). Having at least 1 primary care outpatient visit in the 5 years prior to diagnosis was associated with a 70% reduction in melanoma-specific mortality (unadj HR 0.3 (0.1, 0.9) as was an outpatient specialty visit in the five years prior to diagnosis (unadj HR 0.3 (0.1, 0.8). Controlling for age, gender, SES, and co-morbidities, outpatient visits to specialists pre-diagnosis were associated with a more than a 90% reduction in melanoma-specific mortality (adj HR 0.1 (0.0, 0.4)). Access to care does not equate to utilization. This study is important in that it demonstrates that utilization of care may translate to reduced melanoma-specific mortality regardless of demographic, socio-economic or other comorbid medical factors. As the US begins a period of increased healthcare access, it is imperative that public health messages continue to encourage appropriate utilization.

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Adults with previous nonmelanoma skin cancer still suffer from sunburns despite improvements in sun-protection practices

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Previous nonmelanoma skin cancer (NMSC) is highly associated with increased risk of subsequent skin cancer. Thus, it is important for adults with previous NMSC to limit UV radiation (e.g., sun exposure), a known risk factor for NMSC. However, it is unclear whether individuals with a history of NMSC engage in better sun protection compared to those with no skin cancer history. We used self-reported data from US non-Hispanic white adults from the 2000, 2005, and 2010 Centers for Disease Control and Prevention (CDC) National Health Interview Surveys (54663 reporting no history of skin cancer, 1099 reporting previous NMSC). We calculated odds ratios (OR) and 95% confidence intervals (95%CI) using logistic regression, taking into account the complex survey design and controlling for age, sex, geographic region, skin type, education, and family history of skin cancer. We found that subjects with previous NMSC were significantly more likely than subjects with no history of skin cancer to apply sunscreen (OR=2.26; 95%CI=1.86-2.74; p<0.0001), wear long sleeves (OR=1.45; 95%CI=1.23-1.70; p<0.0001), and wear a wide-brimmed hat (OR=1.70; 95%CI=1.45-1.98; p<0.0001) on a warm sunny day. However, previous NMSC was not significantly associated with a decrease in recent sunburn (OR=0.91; 95%CI=0.75-1.10; p=0.32). Among subjects with previous NMSC, 30% reported recent sunburn. This subgroup was more likely than subjects without recent sunburn to be male (OR=1.57; 95%CI=1.10-2.23; p=0.01) and younger (ORs of 1.00, 0.58, 0.35, and 0.13 for subjects 18-50, 51-60, 61-70, and 71+ years of age, respectively; p-value for linear trend <0.0001). Subjects with previous NMSC report more consistent sun-protection practices, suggesting that they understand the benefits of UV protection. However, a substantial percentage of these individuals still report recent sunburn, especially among men and younger subjects. These findings suggest the need for more effective patient education, even in those with previous NMSC, on proper methods of sun protection to minimize UV exposure.

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Sleep disordered breathing and risk of incident psoriasis in US women

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Sleep disordered breathing (SDB), including obstructive sleep apnea and snoring, and psoriasis have been associated with poor health outcomes such as diabetes mellitus and cardiovascular disease and reduced quality of life. The presumed mechanism of these associations is systemic inflammation. We evaluated the association between SDB and incident psoriasis and psoriatic arthritis (PsA) in a large cohort of US women. Participants received follow-up questionnaires every two years and were asked about snoring, diagnosis of sleep apnea, and diagnosis of psoriasis and PsA. We studied individuals who reported data on snoring and sleep apnea prior to diagnosis with psoriasis or PsA. When asked if they snored, participants were broken into five categories: never snore, occasionally snore, snore a few nights per week, snore most nights, and snore every night. We used Cox proportional hazards to calculate age-adjusted and multivariate risk ratios. Women with sleep apnea were more likely to have a higher BMI, be hypertensive, work night shifts, and have type 2 diabetes mellitus. Sleep apnea was associated with an increased risk of incident psoriasis in age-adjusted (relative risk (RR) 2.24 (95% confidence interval (CI) 1.50-3.34)) and multivariate models (RR 2.04 (95% CI 1.35-3.07)). We further adjusted for night shift work and found no material change in relative risk (RR 2.02 (95% CI 1.34-3.05)). There was no effect modification by BMI (p=0.65) or hypertension (p=0.42). Sleep apnea was not associated with an increased risk of incident PsA. Although women with sleep apnea were more likely to be snorers, we did not find a statistically significant relationship between snoring and the risk of confirmed incident psoriasis. We found that sleep apnea was associated with a greater than 2-fold risk of psoriasis among US women.

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Psoriasis patient preferences for health-related benefit-risk tradeoffs using choice-format conjoint analysis

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Despite advances in new psoriasis treatments, weighing substantial therapeutic benefit against risks is important for clinicians, patients, and other stakeholders. Determining stakeholder preferences regarding benefit-risk tradeoffs is paramount for deciding whether to use certain medications in individual patients. We aimed to determine health-related benefit-risk tradeoffs in a non-expected-utility framework using conjoint analysis among psoriasis patients. We administered choice-format, conjoint surveys to 120 psoriasis patients with moderate-to-severe psoriasis and obtained preference data on treatment benefits and risks. The patients were asked to evaluate treatment options based on the following attributes—magnitude of psoriasis symptom reduction (at least 75% reduction from baseline psoriasis severity), time to initial response, time to maximal response, and durability of response. Serious adverse events were defined as 10-year mortality risks for two possible categories of adverse effects: serious infections (such as tuberculosis) and malignancies excluding non-melanoma skin cancers. We analyzed the data using conditional-logit model and compared several model specifications. We also estimated the utility losses associated with adverse-event risks. Based on the rank-dependent expected utility model with the Tversky and Kahneman function, we found that the maximum acceptable 10-year adverse event risks for improved psoriasis outcomes was 3.57% for serious infections and 1.82% for malignancies excluding non-melanoma skin cancers. We found that, in the psoriasis population, risk preferences are different depending on risk type and that quantitative benefit-risk analysis need to account for the probability weighting of patient preferences.

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Development of a geographically-adjusted tool to more accurately estimate self-reported cumulative ultraviolet exposure: A two-part study

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Accurate estimation of cumulative lifetime ultraviolet (UV) exposure is critical as it is a major risk factor for cutaneous cancers and diseases. However, current survey methods of self-reporting lifetime UV exposure rely on duration of time outdoors without accounting for differences in ambient UV irradiance levels in different locales. The purpose of this study was to pilot a method to incorporate geographic-specific ambient UV indices into current methods of estimating lifetime sun exposure. The first part of this study was development of a 23-item survey instrument enabling incorporation of multi-year averages of UV indices from the United States National Weather Service. The second part of the study was an IRB-approved test of the survey instrument in a cohort of 35 adult female volunteers who were part of ongoing skin aging study at Stanford University. After accounting for geographic locations resided, there was a significant difference in cumulative UV irradiance levels in individuals who had lived in one state (e.g. California) ≤85% of their lives (n=12) compared to those who had lived outside of California >85% of their lives (n=23), hours*mean UV Index Units=298,075 (S.D.=207,221) vs. 525,056 (S.D.=244,751) respectively, p=0.007. Without accounting for geographic locations resided, the difference in cumulative lifetime UV exposure in these two groups was less significant. The improved performance of our novel measure is due to the ability to detect a faster rate of UV dose accumulation hour-for-hour among individuals who had lived >85% of their lives in California compared to those who did not, mean UV Index Units = 5.77 (0.14) vs. 5.19 (0.51), $p < 0.001$. This tool can be applied to states other than California, and may be highly useful in regression analyses to more accurately account for cumulative lifetime sun exposures, a critical element for clinical research in skin diseases associated with ultraviolet exposures.

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Lupus patients with cutaneous hypersensitivity to hydroxychloroquine may tolerate chloroquine

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The antimalarials hydroxychloroquine (HCQ) and chloroquine (CQ) are first-line therapy for systemic and cutaneous lupus erythematosus (SLE and CLE). HCQ is generally used initially, with CQ reserved for patients who fail to tolerate or improve with HCQ. Roughly 10% of patients develop a cutaneous hypersensitivity reaction to HCQ. No study evaluates the potential of cross-reaction with CQ in SLE/CLE patients who react to HCQ. Using retrospective chart review from the Partners Healthcare Research Patient Data Registry, we identified 5 SLE/CLE patients with hypersensitivity to HCQ who subsequently tolerated CQ. Patients were aged 20-58 years old, 4 were female and 1 male, and all had SLE and/or CLE. Three patients developed a morbilliform eruption 3-4 weeks into therapy with HCQ, 1 patient developed a morbilliform eruption after 3 months of HCQ therapy, and 1 patient developed a pruritic eruption 32 months after initiation of HCQ. All cutaneous eruptions resolved with discontinuation of HCQ. The patient who developed a reaction 32 months into therapy was re-challenged with HCQ with recurrence of the pruritic eruption. All 5 patients tolerated transition to CQ without evidence of a hypersensitivity reaction. One patient discontinued CQ after 6 weeks due to potential drug interaction, and another after 4 weeks due to nausea. The additional 3 patients have remained on CQ for a range of 4-22 months. Importantly, no patient identified in this review who developed a cutaneous hypersensitivity eruption to HCQ and transitioned to CQ went on to develop a similar reaction to CQ. This review supports the notion that CQ can be tolerated in lupus patients who develop hypersensitivity to HCQ, an important finding given the benefits of antimalarial therapy in patients with lupus, and the lack of alternative medications with analogous effects and comparable low side-effect profiles. Further studies are necessary to elucidate these findings.

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Dermoscopic patterns of nevi have a distinct anatomical distribution in adolescents

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Nevi with a reticular versus globular dermoscopic pattern are hypothesized to represent distinct biologic subsets of nevi that differ in etiology, anatomic distribution, and association with sun exposure and phenotype. The purpose of this study was to describe the prevalence of dermoscopic patterns of nevi on the legs and backs of adolescents and to investigate the relationship between phenotypic characteristics and dermoscopic pattern. Overview and dermoscopic images of nevi were obtained from the back and legs of 213 9th graders (mean age 14.9 yrs). Nevi were classified as reticular, globular, homogenous (neither reticulation nor globules were present) or complex (both network and globules were observed). Compared to homogeneous lesions, globular nevi were more commonly observed on the back than the legs (OR=4.8; 95% CI: 2.4-9.7), while reticular nevi were less likely to be observed on the back than the legs (OR=0.7; 95% CI: 0.5-0.9). Participants with darker phenotypes were more likely to have reticular and complex lesions when compared to lighter phenotypes (OR=1.5, 95% CI: 1.1-2.0; OR=3.1, 95% CI: 1.8-5.4). Based on our results, we conclude that the dermoscopic patterns of nevi correlate with anatomic location in adolescents. More specifically, globular nevi have a cephalad to caudal distribution, which happens to recapitulate the pattern of melanoblast migration during embryogenesis. In contrast, the predominant pattern of nevi on the legs is reticular. These data suggest that globular and reticular nevi represent distinct subsets of nevi with different causal pathways and associations with sun exposure and phenotype. This in turn may help inform us about the pathways of melanomagenesis.

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Patterns of dermatological changes due to chemotherapy and its impact on quality of life among breast cancer patients

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Background: The study aimed to evaluate dermatological side effects of chemotherapy (Doxorubicin, Cyclophosphamide, and 5-Fluorouracil) and its impact onquality of life among breast cancer patients. Methods:This is a prospective cohort study with 81 breast cancer patients. Dryness and pigmentation on skin of face and hands were measured using Corneometer, Subumeter, Mexameter and Vapometer before, during, 1 month, 3 months, and 6 months after chemotherapy, and quality of life was assessed using Dermatology Life Quality Index (DLQI) and EORTC-QLQ C 30. Results:Patients with chemotherapy (n=61, 75.3%) experiencedsignificantly more dryness and pigmentation during chemotherapycompared to the baseline and it did not recovered even 6 months after completion of chemotherapy. About 70% of patients reported difficulties due to dermatological change (DLQI>2). More dryness and pigmentation patients experienced more physical symptoms ($p<0.01$) and difficulties with leisure activities ($p<0.01$) were reported. Some patients(23.7%) have problemswith personal relationships because of the skin changes. Patients with poor dermatological quality of life (DLQI>2) had lower physical ($P<0.01$), emotional ($P<0.01$), role functions ($P<0.01$), and body image ($P<0.01$) compared to those who had DLQI≤2 adjusting all other factors. However, only 44.1 % of patients took care of theirskin during chemotherapy. Conclusions:Breast cancer patients experience difficulties of daily activities due to chemotherapy-induced dryness and pigmentation resulting in low quality of life. Health professionals need to monitor dermatological changes during chemotherapy and provide appropriate supportive care.

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Development and validation of chemotherapy-induced dermatology distress scale

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Background: Although skin problems among cancer patients were usually perceived as minor complaints by health professionals, patients reported distress and difficulties due to chemotherapy induced skin changes such as dryness and pigmentation. However, few studies investigated this issue, and even no validated instrument to assess chemotherapy induced dermatology distress existed. The aim of this study was developed and validated a psychometric scale for assessing the distress that cancer patients experience due to chemotherapy-induced skin changes. Methods: Twenty-five items in 5 domains was developed for assessing chemotherapy-induced dermatology distress based on a qualitative study. To extract factor structure and evaluate construct valid, a cross-sectional survey was conducted with 345 Korean women with breast cancer and exploratory and confirmatory factor analysis were performed. Results: Exploratory factor analysis indicated that10 items contributed to three domains. Two items loaded to 'physical', and each of four items loaded to 'body image' and 'emotional'. In confirmatory factor analysis, the model fit was good (CFI=0.97).Coefficient alphas ranged from 0.76 to 0.92 for sub-domains and 0.92 for total. The mean score of CDDS in the study population was 22.2 (SD=7.14) and patients who experience skin dryness and color change reported significantly higher CDDS scores compared to people without skin changes. The CDDS was moderately correlated with body image (r=-0.67, P<0.001), overall quality of life (r=-0.45, P<0.001), and self-esteem (r=-0.37, P<0.001). Conclusions: Our study confirmed that the CDDS is a reliable and valid tool for measuring distress of chemotherapy-induced skin change. The CDDS would help health professionals to assess and monitor distress that cancer patients could experience due to chemotherapy-induced skin changes.

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Increased risk of incident depression in psoriasis patients

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An association between psoriasis and mental health disorders has long been suspected. Recent cross-sectional studies have described links between psoriasis and depression. In this prospective study, we investigated the risk of incident depression among individuals with psoriasis. The study population consisted of two separate longitudinal cohorts, including 50,750 US female nurses in the Nurses Health Study I (NHS I) (mean age = 65.6 years) and 18,079 male health professionals in the Health Professionals Follow-Up Study (HPFS) (mean age = 67 years), who were free of depression at baseline. Participants had reported whether they had ever been diagnosed as having psoriasis. We defined depression as self-report of diagnosis of depression and regular use of antidepressant medication. Baseline year was the first year participants reported whether they had ever had a diagnosis of depression, and those with self-report of depression or use of antidepressant medication were excluded. In NHSI, those with Mental Health Index score <52 were also excluded. Among individuals with psoriasis, in NHSI, there were 58 incident cases of depression across 1969 person-years (PYs) of follow-up from 2000-2008. There were 46 incident cases over 4383 PYs in the HPFS from 2002-2008. We found an increased multivariate relative risk (RR) of depression of 1.33 (95% confidence interval (CI): 1.02, 1.73) in NHSI and 1.58 (95% CI: 1.17, 2.13) in HPFS, compared to participants without psoriasis. When looking at antidepressant medication use alone as the outcome, this risk was attenuated, with multivariate RRs of 1.30 (95% CI: 1.09,1.56) for NHSI and 1.22 (95% CI: 0.96, 1.54) for HPFS. This study supports an increased incident risk of depression among US women and men with psoriasis.

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Healthcare utilization and cost in US adults with eczema

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Little is known about the public health burden of adult eczema in the US. The goal of this study was to determine the out-of-pocket costs, healthcare access and utilization in adult eczema in the US. We used the 2010 National Health Interview Survey from a nationally representative sample of 27,157 adults age 18–85 years. Adults with eczema and eczema with asthma and/or hay fever (EAH) had $1,497 and $1,800 per person-year compared with $1,298 in those without eczema. Adults with eczema and EAH were significantly more likely to have ≥6 lost workdays (survey multinomial logistic regression; adjusted odds ratio [95% confidence interval] for eczema: 1.48 [1.19–1.84]; EAH: 1.78 [1.34–2.36]) and 3-5 (eczema: 1.49 [1.21–1.83]; EAH: 2.06 [1.53–2.76]) and ≥6 days (eczema: 1.72 [1.41–2.08]; EAH: 3.69 [2.91–4.69]) days in bed compared with no eczema. Adults with eczema and/or EAH had significantly increased odds of doctor visits, urgent care or emergency department visits, homecare visits and hospitalizations. Adults with eczema and EAH were more likely to report being unable to afford prescription medications (aOR [95% CI] for eczema: 1.49 [1.24–1.80]; EAH: 2.50 [1.98–3.14]) and having delayed care (eczema: 1.45 [1.22–1.71]; EAH: 2.07 [1.63–2.62]) and not being able to get care (eczema: 1.34 [1.11–1.62]; EAH: 2.24 [1.70–2.94]) because of worry about the related costs. This study provides US population-based estimates of the public health burden of eczema in adults. The results suggest substantial out-of-pocket costs, indirect costs from lost work and sick days and increased healthcare utilization.

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Existing self-report tools are not suitable for measuring adherence to topical therapies in psoriasis

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Adherence to topical therapies is poor in patients with psoriasis however the use of non-validated self-report tools in studies limits conclusions. Validated self-report tools such as the Medication Adherence Report Scale (MARS) are widely used to estimate adherence to oral medicines, however their validity for measuring adherence to topical therapies is unknown. Using in-depth cognitive interviews, the suitability of the MARS for measuring adherence to topical therapies was examined in 20 psoriasis patients recruited from UK community samples. Patients completed the MARS whilst simultaneously providing reasons for responses using a think-aloud technique. Data were coded and themes identified using content and framework analysis. As topical treatment prescription advice can vary more than oral medication, participants reported high levels of uncertainty about both quantity and frequency of treatment application. Patients made strategic judgements about their use of topical treatment which they had not discussed with clinicians. Strategies included either intentionally reducing or increasing the volume of medication used or the frequency of application, however this variable adherence was not reflected in the corresponding MARS scores. The thematic analysis of interview data identified the following influences on these behaviours: a) patients' own beliefs about the cause of flares; b) perceived efficacy of topical therapies; and c) high levels of emotional distress. In its current form the MARS was unable to identify intentional non-adherence (neither over- or under-use of treatments). Given that most patients with psoriasis are managed with topical therapy and progression onto systemic therapy is largely determined by treatment response, a brief, valid and reliable tool for measuring adherence variability to topical treatments in both research and clinical settings is warranted.

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Melanoma thickness and survival trends in the United States, 1989 to 2009

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With melanoma incidence rising and mortality stable some question whether the melanoma epidemic is real. Thickness and survival trends may provide insights but previous studies have been limited due to missing data on thickness. We conducted an analysis of invasive melanomas in the SEER-9 registries from 1989 to 2009 with a validated multiple imputation method for missing thickness to characterize thickness and survival trends. 98,498 cases were identified of which 13% had missing data on thickness. Incidence per 100,000 person-years increased (14 to 22, P<0.001); fatal incidence remained stable (2.3 to 2.1, P=0.20); and 5-year relative survival increased (88 to 91%, P<0.001). Median thickness decreased (0.73 to 0.58 mm). Geometric mean thickness decreased (0.77 to 0.65 mm) with a 4.6% (95% confidence interval [CI]: 4.2, 5.0%) drop every three years after controlling for sociodemographic, tumor, staging and surgery factors. Thickness decreased among thin tumors (0.01-1.00 and 1.01-2.00 mm), all age and gender groups, whites, non-Hispanics, all body sites, and most histologic subtypes. Thickness increased among thick tumors (2.01-4.00 and > 4.00 mm) and nodular melanoma. No change was observed among minorities and acral lentiginous subtypes. Melanoma-specific survival improved (hazard ratio [HR] 0.89, 95% CI: 0.88, 0.91) every three years after controlling for sociodemographic, tumor, staging and surgery factors. Improvement in survival occurred across all thickness groups, all age and gender groups, whites, most body sites and most histologic subtypes. Among minorities, and nodular and acral lentiginous subtypes there was no significant change. Increasing incidence across all thickness groups coupled with thin lesions getting thinner and thick lesions getting thicker suggests that the melanoma epidemic is at least partially real. Survival appears to be improving independent of thickness. Finally, disparities in thickness and survival are growing among minorities and nodular and acral lentiginous subtypes.

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No treatment disparity in underinsured patients undergoing Mohs micrographic surgery for non-melanoma skin cancer at a single center

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This study assessed patient, tumor and treatment characteristics of an underinsured population referred to Mohs micrographic surgery (MMS) for non-melanoma skin cancer (NMSC) at a single university-affiliated academic Mohs center. A retrospective chart review was conducted of all MMS records between Jan 2011-Dec 2012. Controls were chosen as all insured patients who underwent MMS on the same day as any underinsured patient. Underinsured patients were categorized based on having no insurance, limited income-based insurance provided by the hospital or Medicaid. Analyses were conducted with $\chi 2$ and t-tests. Thirty underinsured patients with 62 lesions and 159 insured patients with 385 lesions were included. The number of patients presenting with multiple lesions or recurrent tumor did not differ between the groups. The underinsured patients were more likely to be female (43% male (13/30) versus 65% male (103/159) P<0.01). There were significantly more squamous cell carcinoma in situ (SCCis) tumors treated in the insured population compared with the underinsured (36/385 vs 0/62; p<0.01). The underinsured were treated for more basal cell carcinomas (50/62 vs 228/385, p<0.01). The initial defect size, final defect size and number of Mohs tissue layers required for tumor extirpation were commensurate between groups. Repair types and referral to plastic surgery among the underinsured and insured did not differ. The underinsured population was less likely to be referred to MMS for SCCis, which may indicate more advanced tumors at time of presentation or use of different treatment modalities in this group. Otherwise, there was no indication of more aggressive or advanced NMSCs in the underinsured group suggesting comparable care of these patients. Repair types were no different based on insurance coverage indicating equal treatment within our Mohs surgery center. Higher referral rates to MMS for female underinsured patients may indicate greater cosmetic consciousness in this subgroup.

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An analysis of personality styles and coping behaviors in chronic pruritus

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There is increasing interest in how the five main personality factors—neuroticism, agreeableness, conscientiousness, openness and extraversion—mediate coping behaviors in chronic illness. We seek to explore how the 10 personality 'styles', conceptualized by the intersection of each personality factor (e.g. neuroticism vs. conscientiousness yields style of impulse control) mediate greater reported quality of life impact in chronic pruritus. Adult (≥18 years) subjects with chronic pruritus > 6 weeks were recruited through the National Eczema Association or from a stratified random sample from the US Veterans National Patient Care Database. Subjects completed validated questionnaires to assess characteristics and impact of their pruritus (ItchyQoL) and personality traits (NEO-Five Factor Inventory). Multivariate regression analysis was performed to determine which personality styles were associated with greater total mean ItchyQoL score (more impact) as well as symptom (sx), emotion (em), and function (fx) subscale scores at the 0.05 significance level. The 483 subjects in the final dataset were mostly (76%) male and had a mean itch duration of 23 weeks. The 'Lethargic' personality style (low extraversion, low conscientiousness) was associated with greater total mean ItchyQoL score, (11.65 (p=0.04)) and trended to significance for fx subscale scores (3.71, p=0.07). Similarly those personality styles with high neuroticism, "Overcontrolled" (high neuroticism and high conscientiousness; 2.76, p=0.01) and "Undercontrolled" (high neuroticism, low conscientiousness; 2.34, p=0.03) were associated with greater sx subscale scores. Interestingly, no personality styles were associated with greater em subscale scores. These data suggest that there are distinct personality styles that may be implicated in how patients perceive, report, and cope with chronic pruritus which if addressed, may have the potential to significantly impact burden of disease.

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Teledermatology programs in the veterans health administration

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The Veterans Health Administration (VHA) is likely the largest teledermatology provider in the US. We describe the teledermatology activity in the VHA using routinely collected administrative data. In fiscal year 2013, the VHA recorded 858,028 telehealth encounters, of which 6%, or 53,192, were teledermatology. This represents 25% of all teledermatology visits (n=213,772) recorded by the VHA since 2002, indicative of the rapid growth of the program. The VHA is divided into 22 geographical regions called Veterans Integrated Services Networks (VISNs), 20 of which used teledermatology in FY 2013. Two modes of teledermatology were used: Clinical Video Telehealth (CVT, or live video conferencing), in 7 VISNs, and Store and Forward Telehealth (SFT), in 20 VISNs. 96% of teledermatology enounters (50,863) in fiscal year 2013 were SFT; for the time period 2002-2013, 74% of teledermatology encounters (158,805) were SFT. Fiscal years 2012 to 2013 also showed decreased use of CVT and increased use of SFT. The Northwest VISN, serving Idaho, Oregon, Washington and Alaska, and Sunshine VISN, serving Florida, Puerto Rico, and the Virgin Islands, reported the highest number of encounters in the nation, each with 15% of the total. Nationally, 66% of the 2013 SFT encounters were performed within 7 days of referral; 80% were performed within 30 days. 55% of encounters were for patients living in urban areas (as defined by the U.S. Census), versus 42% in rural and 2% in highly rural (defined as <7 civilians per square mile) – the latter used only SFT. This report is limited by potential coding and data entry errors of these administrative data; these errors may lead to underestimation of encounters as well as overestimation of time to consult completion. VHA is a leader in the United States in using teledermatology to increase access to dermatology services for patients. It is transforming the mode of delivery of dermatology services to veterans as its use of teledermatology grows.

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Treatment recommendations for melanocytic lesions vary among pathologists

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Therapeutic guidance by pathologists may influence the care of patients with melanocytic lesions. We examined the relationship between pathologist-level characteristics and treatment recommendations for melanocytic lesions. We surveyed US pathologists to obtain individual professional and demographic information. Each was asked to provide treatment recommendations for the following: dysplastic nevi (mild, moderate, and severe), Spitz nevi (typical and atypical), melanocytic tumors of uncertain malignant potential (MELTUMP), melanoma in situ (MIS), and invasive malignant melanoma (MM). We assessed associations between pathologist characteristics and treatment recommendations with appropriate statistical testing. Sixty-eight surveys have been completed. Pathologists with dermatopathology training (p<0.001) and dermatopathology board certification (p<0.001) were more likely to recommend no treatment for mildly dysplastic nevi. Full-time academic appointment (p<0.01) and high monthly caseload of melanocytic lesions (p<0.02) were associated with aggressive therapeutic recommendations for moderately dysplastic nevi. For typical Spitz nevi, those requesting ≤2 second opinions/month were more likely to favor narrower re-excision margins (p=0.04). For atypical Spitz nevi, women (p=0.02) and high monthly caseload of melanocytic lesions (p=0.04) were associated with favoring aggressive treatment. The latter was also significantly associated with aggressive therapy for MELTUMP (p=.03). Twenty-seven pathologists made recommendations that differ from national guidelines for MIS, while 6 pathologists made recommendations that differed from national guidelines for MM. Those 60 years and older were more likely to make correct treatment recommendations for MM (RR 1.5), although this did not reach statistical significance. Treatment recommendations by pathologists exhibit large variation across pathologist-level factors. Efforts to reduce this variability should be a priority for quality improvement initiatives in dermatology.

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Subjective component of SCORAD provides unique information when assessing atopic dermatitis

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SCORing Atopic Dermatitis index (SCORAD) is a frequently used, validated tool for measuring AD severity. Total SCORAD consists of objective SCORAD (OS, extent and severity of AD) and subjective SCORAD (SS, pruritus and sleep loss). Use of OS alone is recommended because SS is affected by social and cultural factors that can unpredictably influence total SCORAD. However, pruritus and sleep loss are important components of AD with a significant impact on quality of life. Therefore, we hypothesized that including SS in analysis of our AD patients might contribute clinically relevant information and/or correlate with cutaneous Staphylococcus aureus which is frequently associated with AD flares. OS and SS were determined for 15 children with moderate-to-severe AD at baseline (B), flare (F), and post-flare (PF) visits. In 12 children, skin microbial communities at sites of AD predilection (antecubital and popliteal fossae) were analyzed by 16S ribosomal RNA bacterial gene sequencing. OS and SS did not strongly correlate with each other at B (r=0.11, p=0.7), F (r=0.26, p=0.36), or PF (r=0.48, p=0.13) visits. Proportion of S. aureus at sites of AD predilection strongly correlated with OS (r=0.71, p<0.0001) and total SCORAD (r=0.70, p<0.0001) but weakly correlated with SS (r=0.47, p=0.004). The two components of SS were both similarly (and weakly) correlated with proportion of S.aureus (pruritus: r=0.41, p=0.01; sleep loss: r=0.39, p=0.02). In conjunction with prior studies, our findings suggest that because they are weakly correlated, both SS and OS may provide distinct information on AD severity. Thus, standardized reporting of both components in AD studies may be informative. Furthermore, both pruritus and sleep loss in AD fluctuate independently from cutaneous S.aureus colonization in our cohort. Further studies are needed to determine how objective and subjective assessments of AD differentially correlate with microbial community structure.

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Variations in incidence and survival of cutaneous melanoma by race in the united states

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Cutaneous melanoma is an aggressive form of skin cancer with high incidence rates in the US. It is a commonly diagnosed cancer among men and women. Melanoma incidence varies by race, with Whites predominating, followed by Hispanics, American Indians/Alaskan Natives/Asian/Pacific Islanders, and Blacks, respectively. To determine whether disparities existed, survival was stratified by race. Data was acquired from the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) Program. Data from 1973-2009 was compiled and the Kaplan-Meier method was used to calculate survival for cohorts by race, and race stratified by stage at presentation. White patients presented with the highest percentage (75.97%) of Stage I diagnosis (95% CI: 75.62,76.31). Black patients presented with the highest percentages for stages II-IV: 22.82 (95% CI: 18.42,27.91), 13.42 (95% CI: 10.01,17.76), 11.07 (95% CI: 7.99,15.14), respectively. Ten year survival was greatest for Whites, followed by Hispanic, Blacks, and American Indians/Alaskan Natives/Asian/Pacific Islanders (p= 1.12e-05). Despite higher incidence, overall survival is greater in whites compared to Nonwhites. Black patients had significant increases in mortality for Stage I: Hazard Ratio (HR) 3.037 (95% CI: 2.335, 3.951) and stage III: HR 1.864 (95% CI: 1.211, 2.87), compared to Whites (reference). Source of payment may have significance in the contribution to this disparity. This epidemiological study has public health implications. Despite low incidences, minorities have significantly increased mortality compared to Whites; this data is evidentiary of sociocultural health disparities consistent with other illnesses. Linking results of the study to health outcomes based on racial demographics shows that screening and treatment of minorities can be improved. Dissemination of the data presented can change standards of care, improve population health, and open investigation into other determinants that may affect minority populations.

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Rosacea has an increased association with skin cancer

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The relationship between rosacea and skin cancer is unclear with no reported studies since the classification of rosacea in 2002. Questionnaires were distributed to a voluntary cohort of twins at the 2012 and 2013 annual Twinsdays Festival. The survey included each participant's age, gender, ethnicity, Fitzpatrick skin type, sun exposure history by age and geographic location, and skin cancer history. Adults were evaluated for rosacea by a dermatologist. After excluding individuals under the age of 50, participants were divided into a rosacea group and a rosacea-free control group. An increased number of skin cancers were identified among the rosacea group (19.15%) as compared to the control group (2.22%). Multivariate analysis demonstrated an odds ratio of 12 (p = 0.02) for skin cancer development among rosacea cases as compared to controls. Clinical practitioners should consider skin cancer screening among their rosacea patients as it may represent a potential risk factor.

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Hidradenitis suppurativa is a disease of significant co-morbidity burden: Results from a case-control analysis of a large patient database

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Previous epidemiologic studies describing hidradenitis suppurativa (HS) have been limited by small sample sizes. The purpose of this retrospective, case-control study was to report the co-morbidities of HS in a large patient care database. Within the Partners Healthcare Research Patient Database Registry (RPDR), all patients who received at least two International Classification of Disease, Ninth Revision codes consistent with HS (705.83) were identified and then manually screened for validation of the HS diagnosis by chart review. A control population was matched for age, gender, and race. The RPDR query returned 1,168 patients with at least two HS codes, and of these, 1,046 (90%) were confirmed as having HS. HS cases had a mean age of 44 years, and 72% were female. 67% were white, 14% were black, and 13% were Hispanic. Chi-square comparisons between the case and control groups demonstrated that patients with HS were significantly more likely than the controls to have all of an a priori selected set of co-morbidities including current or former smoker ($p<.01$), obesity ($p<.01$), dyslipidemia ($p<.01$), hypertension ($p<.01$), diabetes mellitus ($p<.01$), thyroid disorder ($p<.01$), mental disorder ($p<.01$), arthropathies ($p<.01$), polycystic ovarian syndrome ($p<.01$), alcohol dependence ($p<.01$), and drug dependence ($p<.01$). These data demonstrate a substantially higher co-morbidity burden associated with HS compared to controls. We recommend a multidisciplinary approach to treating these patients, including close follow-up with a dermatologist and evaluation for metabolic syndrome, cardiovascular risk factors, and psychological co-morbidities.

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Smoking increases the of CLASI in subjects with moderate to severe systemic lupus Erythematosus

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The goal of the study was to evaluate the influence of smoking on the severity of cutaneous manifestations of adults with moderate to severe SLE. In this ongoing international multi-center double-blind randomized placebo-controlled trial in adult SLE (94.7% female, median disease duration 6.3 years, 59% white, 37% Hispanic, median age of 40 years old, mean SLEDAI 2K 11.3, with 84.7%, 72.4%, 49.9% receiving corticosteroids, antimalarials, or immunosuppressants respectively) subjects (n=431) were assessed for mucocutaneous disease activity (CLASI (N=426), SLEDAI2K, BILAG) at baseline based on smoking history at screening. There were N=365 Never or Past Smokers and N=61 Current smokers. Based on SLEDAI 2K scoring at baseline 79%, 67% and 45% had an inflammatory rash, alopecia or mucosal ulcers with no significant differences between smokers and non-smokers. Current smokers had significantly higher CLASI scores and were more likely to have moderate or severe rash (CLASI ≥ 10). This observation was consistent across geography, races ethnicities, and SLE medications at baseline There was no relationship between smoking and cutaneous damage. We show that smoking can increase CLASI scores in subjects with SLE compared to non-smokers. The CLASI seems more sensitive to detect these differences of inflammatory skin involvement in SLE subjects with moderate to severe SLE than the SLEDAI 2K mucocutaneous descriptors (alopecia, rash, mucous ulcers). The relationship between smoking and higher CLASI scores compared to non-smokers is consistent across geographies, races, ethnicities and SLE medications at baseline. These results show that current smokers with lupus have worse skin involvement than non-smokers. Smoking cessation should be emphasized in the management of SLE with cutaneous involvement.

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Severe atopic dermatitis in an African-American pediatric cohort is associated with a filaggrin low intragenic copy number variant

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The prevalence of atopic dermatitis (AD) is higher in African-American (AA) children with a strong family history of atopic dermatitis. However, the genetics underlying AD in AA children are unknown. We examined the AD clinical phenotype and the role of filaggrin (FLG) genetic variants in a pediatric AA cohort by measuring disease severity (SCORAD) and genotyping methods, respectively. Pediatric patients (ages 1-18, n=38) that self-report as African-American were recruited to the study by meeting the UK Working Party's diagnostic criteria for AD and exhibited moderate to severe AD (SCORAD>25). Our AA pediatric cohort (mean age=6.4, range 1-15) is characterized by severe AD (mean SCORAD=57.6, range 28.0-90.5), intense pruritis (mean=7.8, 0-10), and severe disruption of Quality-of-Life (mean=7.8, scale 1-10). As well, 53% reported suffering from food allergies (26%, peanut; 26%, fish/shellfish) and 81% (>4 years) were symptomatic for asthma. Lichenification (mean=2.18, scale 0-3) contributed the most to the representative flare thus supporting the chronicity of the disease in this cohort. Moreover, dryness in the nonlesional skin ranked the highest in mean severity (mean=2.21, scale 0-3) among all reportable quantitative and objective skin measures. Fewer FLG monomer repeats in exon 3 (genotyped as 10, 11, and 12 repeat alleles or copy number variants [CNV]) have been previously associated with higher AD risk. From genotyping assays, we determined that 47% of the AA cohort is homozygous for 10 FLG monomer repeats (10/10), and that the 10/10 genotype is associated with the development of severe AD (OR = 1.64; 95%CI, 0.44-6.11). Thus, our study furthers our understanding of the distinguishing clinical features of severe AD in an AA pediatric cohort that until now has been largely underexplored and identifies a low intragenic FLG copy number variant associated with AD severity.

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Association of melanoma incidence with biopsy and excision rates, 2008-2010

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Prior research has demonstrated a parallel pattern of increasing melanoma incidence and skin biopsy rates; it is still debatable if the latter is responsible for the former. We sought to further evaluate the relationship between melanoma incidence and skin biopsies. We used the Surveillance, Epidemiology, and End Results Program (SEER) – Medicare data in years 2008-2010 to examine age-adjusted melanoma incidence and skin biopsy and excision rates across calendar time, age, sex, and SEER Registry. Age-adjusted incidence of invasive melanoma in years 2008-2010 was 21.3 per 100,000, and in situ melanoma was 15.5. Over this 3-year period, incidence of invasive melanoma remained unchanged, but in situ melanoma increased by about 10%. Age-adjusted rates of both skin biopsy and excision also increased by about 10%. Incidence of invasive melanoma in years 2008-2010 was lowest in ages 65-74 and highest in ages 85+ for both men and women over ages 65. In situ melanoma incidence increased with increasing age for men, but for women it was higher in ages 75-84 than ages 65-74 and 85+. Both biopsy and excision rates were also higher in ages 75-84 than the other age groups. Men had 65% and 67% higher incidence of invasive and in situ melanoma, and a 60% higher rate of biopsies and excisions than women. For the 10 states covered by SEER registries, the correlations of invasive melanoma incidence to biopsy and excision rates were .36 and .24, respectively ($p>.1$ for each), but the correlations of in situ melanoma incidence to biopsy and excision rates were .61 and .52 ($p=.03$ and .06, respectively.) Skin biopsy and excision rates were closely parallel to in situ melanoma incidence, but they were also parallel to invasive melanoma incidence to a lesser degree. These ecological correlations offer limited insights into cause and effect, but suggest that the increasing rate of in situ melanoma may reflect increased procedural diagnostic utilization.

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Assessment of preferences and need for a psoriasis patient decision aid

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The recent expansion of treatment options for the common skin disease, psoriasis, will likely lead to greater collaboration between patients and healthcare practitioners in the decision-making process. 'Shared Decision-Making' has been shown to increase satisfaction with care, and may be enhanced by using tools such as Patient Decision Aids (PDAs) that can increase health literacy levels and personalize the treatment decision-making process. While a paper-based Psoriasis PDA currently exists (Tan and Wolfe, Arch Dermatol, 2012), our overall goal is to create the first web-based, interactive PDA for psoriasis patients, using a Patient-Centered Outcomes Research (PCOR) approach. To assess the perceived need of a PDA by psoriasis patients, 5 focus groups were conducted under an IRB-approved protocol, engaging a total of 25 individuals with mild to severe psoriasis. Participants ranged in age from 21-73 years (mean of 52 years) with duration of disease ranging from 3-49 years. Focus group participants strongly favored the creation of an informative and clear PDA for psoriasis. They expressed the need for a comprehensive list of treatment choices, with treatment effectiveness, safety and side-effects data, as well as disease and drug interactions. Patients indicated they would also value adding theses utilities to the PDA: ability to sort by preference for method of administration and information on available clinical trials and promising new agents. Patients also value data on alternative health approaches, insurance requirements, and provider areas of expertise. Next steps are to develop an evidence-based Psoriasis PDA prototype for testing, with input from all interested stakeholders.

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Methylisothiazolinone (MI), a new and frequent contact allergen: Relevance and outcomes from clinical practice

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The purpose of this study was to determine the prevalence, co-reaction patterns, and outcomes of patients patch tested with methylisothiazolinone (MI) and methylchoroisothizolinone/ methylisothiazolinone (MCI/MI) as part of our standard patch test series. A retrospective chart review was conducted of patients patch tested with MI and MCI/MI in 2012 and 2013 according to methods of the North American Contact Dermatitis Group. Demographic data, exposures, and outcomes was recorded in patients with positive reactions. During this time, 382 patients were patch tested. Contact allergy to MI and/or MCI/MI occurred in 34 (8.9%), with 17 reactions to MI only, 1 reaction to MCI/MI only, and 16 reactions to both. Most were female (73%); average age was 47 years. Average duration of dermatitis before patch testing was 30 months and most patients (60%) had a history of atopy. Most commonly affected sites were hands (n=13), face (n=11), and generalized (n=10). Contact allergy was occupationally related in four cases; three were hairdressers using shampoos containing MI and a fourth was a daycare worker utilizing MI-containing wet wipes. Relevance of exposures was identified and rated definite (n=2), probable (n=12), possible (n=11), or past (n=2). Cosmetics, soaps and cleansers (including personal wet wipes), and hair care products accounted for all identified sources. Concomitant allergy occurred to other preservatives: methyldibromo glutaronitrile/phenoxyethanol (n=6), iodopropynyl butylcarbamate (n=5), formaldehyde (n=5), bronopol (n=4). Outcomes were available for 12 patients; most improved with allergen avoidance: cleared (n=4), mostly cleared (n=5), and partially cleared (n=1). The high prevalence of contact allergy to MI supports its addition to standard patch test series to identify cases missed by testing with only MCI/MI. Intervention is needed to reduce the number of products containing these preservatives.

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Presence of dermal atypia in malignant melanoma in situ: effect on management and outcome

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Melanoma is one of the deadliest forms of skin cancer, having a high metastatic potential and afflicting all age groups. The onus to detect melanoma at its earliest, curable stage drives clinical practice. Malignant melanoma in-situ (MMIS) is thought to be a precursor lesion to malignant melanoma, and incidence has been increasing particularly in the last decade. MMIS is poorly characterized with various treatment approaches, and many physicians are unsure of the progression of MMIS to metastatic disease. The importance of margin individual melanocytes following excision is also unclear. The purpose of this study was to characterize the natural history of MMIS and to investigate the influence of dermatopathology comments regarding the presence of dermal melanocytes on management. A retrospective review of patients with a new pathologically proven diagnosis of MMIS at the Brigham and Women's Hospital was performed. All qualifying subjects from 2003-2004 were identified and entered into a comprehensive database. Patients without recent follow-up were excluded. Types of excision, excision margins, and disease outcomes were compared between patients with and without dermal atypia on pathology. Our population had a 10-year survival rate of 98.8%, with deaths resulting from metastatic melanoma. Most patients underwent a wide local excision (WLE) with margins of 0.5 cm (81.3%), and an overall recurrence rate of 2.07% was observed. Patients that demonstrated dermal atypia on pathology had an increased rate of WLEs with wider excision margins. Interestingly, a high percentage (28.6%) of multiple melanomas was noted. MMIS has an excellent prognosis if treated early and appropriately. Our findings may serve to reduce the morbidity associated with WLEs and to clarify the prognosis and etiology of MMIS.

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Gallstones and risk of incident psoriasis and psoriatic arthritis in U.S. women

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Metabolic syndrome and obesity are known to be strongly associated with both psoriasis and gallstones, implying possible common causal factors. However, the association between psoriasis and gallstones has not yet been studied. Our study investigated the association between psoriasis and gallstones in the Nurses' Health Study II (1991-2005). A total of 95,540 participants were identified. In this population, 813 individuals had a diagnosis of psoriasis and 1,663 patients had gallstones confirmed by a history of cholecystectomy at baseline; an additional 622 women developed psoriasis during the follow-up, and 6,907 women developed gallstones during the follow-up. A baseline history of gallstones was found to be associated with increased risk of psoriasis [hazard ratio (HR) = 2.20; 95% CI: 1.46, 3.31] and increased risk of psoriasis with concomitant PsA as well (HR = 4.79; 95% CI: 2.70, 8.50). After adjusting for BMI and other known risk factors for psoriasis and gallstones, a history of psoriasis with concomitant PsA continued to demonstrate an increased risk of gallstones (HR = 2.56, 95% CI: 1.41, 4.65), as did a history of psoriasis alone (HR = 1.55, 95% CI: 1.02, 2.37). In this study, we found that a history of gallstones is associated with an increased risk of psoriasis and PsA.

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The epidemiology of Lyme disease in the state of Massachusetts, 2001-2011

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Lyme disease, a notifiable, multisystem illness caused by the bacterium, *Borrelia burgdorferi*, spreads through the bite of infected ticks and is a growing public health concern. The Massachusetts Department of Public Health receives Lyme disease reports from healthcare providers and from clinical laboratories. In Massachusetts between 2001 and 2011, a total of 28,727 cases of Lyme disease were reported; the annual count increased 134%, from 1,236 cases in 2001 to 2,887 cases in 2011. During this 10-year period, 68% of cases manifested erythema migrans, 32% arthritis, 9% Bell's palsy, 3% radiculoneuropathy, 3% lymphocytic meningitis, and 1% second- or third-degree atrioventricular block. Information regarding race was available for 18,912 (66%) reported cases. Of these, 18,311 (96.8%) patients were identified as white, 249 (1.3%) as other, 224 (1.2 %) as Asian, and 128 (0.7%) as black. Lyme disease is highly concentrated in the northeast and north-central states, with Massachusetts having one of the highest prevalence rates. During 2001-2011, the number of reported cases more than doubled. These results highlight the continued emergence of Lyme disease and the need for tick avoidance and early treatment interventions.

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Eczematous response to squaric acid sensitization not required for scalp treatment initiation in alopecia areata

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There are conflicting reports regarding the necessity of an initial eczematous reaction at the site of squaric acid dibutylester (SADBE) sensitization for alopecia areata with concentrated SADBE prior to the initiation of continued scalp treatment with more dilute solutions. While some authors purport that the absence of an eczematous reaction does not imply that sensitization has failed, others specify the need for repeated sensitization attempts until such a reaction is noted. A retrospective chart review was conducted to survey the various SADBE treatment regimens used in the treatment of alopecia areata at our institution over a period of sixteen years, and to evaluate their efficacy at sensitization as measured by the ability to elicit hair regrowth. 339 patients were treated for alopecia areata, of which 13 (9 women and 4 men, mean age 13 years, range 6 to 32 years) received treatment with SADBE. 3/13 patients demonstrated an eczematous reaction at the sensitization site after the first sensitization attempt and hair regrowth with continued treatment. 5/13 patients underwent multiple sensitization attempts (median 2, range 2-6) prior to the development of an eczematous reaction at the sensitization site. Four out of these 5 sensitized patients chose to pursue continued treatment and all demonstrated hair regrowth. Of the 5/13 patients that either forwent sensitization or failed to demonstrate an eczematous reaction at the sensitization site, the three that nonetheless pursued continued treatment all demonstrated hair regrowth. Thus, SADBE sensitization regimens and reactions demonstrate great variability and the absence of an initial eczematous reaction to sensitization does not predict a failed response with continued SADBE treatment. Consequently, a larger group of patients may be candidates for SADBE therapy than certain treatment regimens imply and an initial concentrated sensitization application may be unnecessary in some cases. Further studies are required to identify the most efficacious and cost-effective treatment regimen.

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Annual percentage change of incidence rate of Merkel cell carcinoma has declined in the United States

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Merkel cell carcinoma (MCC) is a rare skin cancer that has shown increasing annual incidence since its initial description. Given the high mortality rate of this disease relative to other skin cancers, it is important to continue monitoring the incidence and prognosis of MCC. The study was conducted using the SEER 18 database to analyze annual incidence of MCC and age-adjusted 5-year survival rate. A total of 4803 cases were identified during this time interval. Of these cases, there were 4732 unique patients. There were 2927 males (62%) and 1805 females (38%). The analyses were performed based on sex, age, and stage of disease. Analysis showed an increasing trend in the annual incidence of MCC from 2000 to 2010, with an annual percentage change (APC) of 2.4% (CI = 1.3, 3.6). This annual percentage change is significantly lower than that found in a previous study on MCC incidence changes from 1986 to 2001 (EAPC = 8.08; CI = 6.29, 9.90). The APC in the female population (APC = 3.3, CI = 1.0, 5.6) is much higher than in the male population (APC = 1.8; CI = 0.2, 3.4) although overall annual incidence of MCC is higher in the male population. In addition, multivariate Cox proportional hazards models showed that 5-year survival rate is greater in female than in male patients regardless of stage of disease (Local: 55.4% vs. 48.8%, Regional: 51.1% vs. 41.5%, Distant: 26.7% vs. 14.1%). The study also found a significant difference in the distribution of staging (local, regional, distant) between males and females patients less than 55 years old. In this age group, women were more likely to have localized disease compared to men, who are more likely to have regional disease (p = 0.019). In conclusion, this study supports a decline in the rate of increase in incidence of MCC. Additionally, the 5-year survival rate is higher in female patients in all stages of MCC.

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Prevalence of psoriasis phenotypic subsets among U.S. men and women

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Objective: Psoriasis is highly prevalent in the US and presents with several phenotypes, including chronic plaque, nail, scalp, palmo-plantar and inverse (intertriginous) psoriasis. We present important prevalence data evaluating psoriasis phenotypic subsets based on three large cohorts: Health Professionals Follow-up Study (HPFS) and Nurses' Health Study (NHS) and Nurses' Health Study 2 (NHS2). Methods: Psoriasis diagnoses were self-reported among subjects using the Psoriasis Screening Tool. Psoriatic phenotypic subtypes: chronic plaque, scalp, inverse, palmoplantar, and nail psoriasis. The HPFS (1986-2010) includes 51,529 males ages 40-75. The NHS (1998-2010) includes 121,701 female nurses ages 30-55. NHS2 (1991-2005) includes 116,686 women between the ages of 25-42. Results: The total number of patients with psoriasis was n=1611 (NHS), n=1593 (NHS2), and n=646 (HPFS). Plaque disease among NHS, NHS2 and HPFS was 56% (n=902), 60% (n=956) and 56% (n=362). Scalp disease prevalence was 52% (n=838), 55% (n=876) and 45% (n=291). Palmoplantar disease prevalence was 14% (n=226), 14% (n= 223) and 12% (n=78). Nail disease among the groups was 23% (n=371), 26% (n= 419) and 27% (n=174). Inverse disease was 21% (n=338), 24% (n=382) and 30% (n=194). Concurrent non-plaque subsets of note included: nail+scalp NHS, NHS2 and HPFS were 14%, 14% and 17%; scalp+inverse: 14%, 17% and 16%; nail+scalp+inverse 6%, 8%, 8%. Conclusion: The prevalence of non-plaque phenotypes, occurring concurrently with or without plaque disease, is high and may approach the prevalence of plaque disease itself. These phenotypic subsets have been reported in other studies to significantly affect patient's quality of life and, in some cases, are associated with increased risk of psoriatic arthritis. This data represents the largest report of psoriasis phenotypic subset prevalence data to date and is important for framing future studies.

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Citrus consumption is associated with risk of malignant melanoma

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Citrus products are dietary sources of psoralens, a group of chemicals that have photocarcinogenic properties. We examined the association between citrus consumption and subsequent incident malignant melanoma among participants in the Nurses' Health Study (1984-2010) and the Health Professionals Follow-up Study (1986-2010). Among 105,437 participants over 2 million person-years of follow-up, we documented 1857 incident melanomas. The pooled multivariate-adjusted hazard ratio for melanoma comparing the extreme total citrus consumption categories (1.5 or more serving per day vs. less than twice per week) was 1.30 (95 confidence interval [CI], 1.08 to 1.57) (P=0.003 for trend). Grapefruit and orange juice were two individual citrus products that showed significant associations with risk of melanoma. The pooled multivariate-adjusted hazard ratios for melanoma were 1.41 (95% CI, 1.09 to 1.82) comparing the extreme consumption categories of grapefruit (three times or more per week vs. never, P=0.004 for trend) and 1.26 (95% CI, 1.02 to 1.56) comparing the extreme consumption categories of orange juice (once or more per day vs. never, P=0.001 for trend). Significant positive associations between citrus consumption and risk of melanoma were also observed for invasive melanoma and melanoma that occurred on the head, neck and extremities, and among participants who spent more time in direct sunlight since high school and resided in areas with higher solar ultraviolet radiation in the US. In conclusion, we found that consumption of grapefruit and orange juice was positively associated with risk of malignant melanoma among US women and men.

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Ranking the most disabling skin diseases in the United States of America in 2010

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The Global Burden of Disease (GBD) project (www.healthmetricsandevaluation.org) estimates the disability caused by skin diseases using the metric of disability-adjusted life years (DALYs). DALYs equal the sum of years lost to a disease (mortality) plus years lived with disability (morbidity). The GBD project systematically reviews the epidemiologic literature and uses IDC-9 and ICD-10 definitions of disease. Using prevalence and disease severity adjustment measures the GBD project estimates relative disability measures for all diseases more precisely than ever before. According to this data in 2010 the top 13 most disabling skin diseases in the USA were: 1) dermatitis (390,233 DALYs) 2) non-melanoma skin cancer (230,918 DALYs) 3) melanoma (220,168 DALYs) 4) acne vulgaris (203,374 DALYs) 5) pruritus (134,569 DALYs) 6) viral skin diseases (119,512 DALYs) 7) urticaria (112,689 DALYs) 8) bacterial skin diseases including cellulitis (91,382 DALYs) 9) decubitus ulcer (84,763 DALYs) 10) fungal skin diseases (70,655 DALYs) 11) psoriasis (64,342 DALYs) 12) alopecia areata (58,662 DALYs) and 13) scabies (24,109 DALYs). The 3 skin disease showing the greatest increase in DALYs since 1990 were: 1) non-melanoma skin cancer (118,768 more DALYs in 2010), 2) dermatitis (86,398 more DALYs in 2010) and 3) melanoma (41,159 more DALYs in 2010). These skin disease disability rankings provide new transparent data to inform US dermatology research, public policy, and resource allocation.

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Looking for a journal with the most social media impact: *JID* tops facebook while *JAMA Dermatology* tops twitter

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While academic authors routinely appraise journal impact factors when determining where to submit their manuscripts, they may now also consider journal social media impact. We examined dermatology journal presence on social media. We searched Facebook and Twitter for 100 peer-reviewed dermatology journals found in the journal database SCImago on 5/30/12. We also searched for three additional popular peer-reviewed dermatology journals (JAMA Dermatology, Journal of Clinical and Experimental Dermatology Research, Journal of Dermatology Nurses' Association) and two trade publications (Dermatology Times, Practical Dermatology) not listed in SCImago. Facebook "like" and twitter "follower" numbers were updated on 12/12/13 for the subset of the top ten most active dermatology journals and trade publications on social media. Five journals/trade publications were on the top ten for both Facebook likes and Twitter followers: Cutis, JAMA Dermatology, Journal of Clinical and Experimental Dermatology Research, Journal of Dermatology Nurses' Association, and Practical Dermatology. Of peer-reviewed journals, the Journal of Investigative Dermatology (6736) and JAMA Dermatology (4693) had the greatest absolute numbers of Facebook "likes" and Twitter "followers." Of note, with the inclusion of trade publications, Dermatology Times (7504) had the greatest absolute number of Twitter "followers" on 12/12/13. All top ten dermatology journals experienced a minimum 100% increase in Facebook "likes" or Twitter "followers" over the 18 months studied. Our data suggest modest but increasing use of social media among readers of dermatology journals. The results of our study provide evidence that authors should also consider a journal's social media impact when considering manuscript publication.

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Representation of the most disabling skin diseases in the USA in *The National Institute of Arthritis and Musculoskeletal and Skin Diseases* grants

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The Global Burden of Disease (GBD) 2010 project established dermatitis, non-melanoma skin cancer, and melanoma as the three most disabling skin conditions in the USA using the metric of disability-adjusted life years (DALY). We examined how well grant topics funded by The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) reflect skin disease burden in the USA. Grants awarded by NIAMS in 2013 were categorized into skin disease categories measured by the GBD. Twenty percent of NIAMS grants covered dermatologic topics which received 19.6% of total funding. Dermatitis, the most disabling skin disease, was well represented (n=20). The next most disabling skin diseases, non-melanoma skin cancer and melanoma, had the highest (35) and third highest (16) grant representation, respectively. Eight-six grants covered topics in GBD's "other skin and subcutaneous diseases" category and an additional 102 grants covered general skin research, skin research unspecified, conferences, training, and miscellaneous skin conditions. Twelve of the 15 of the most disabling GBD skin disease categories were represented in the NIAMS grant database. Many factors may guide dermatologic research prioritization, including whether disease disproportionately affects disadvantaged populations, availability and lack of cost-effective interventions, interest-group advocacy, and public interest. US GBD data should inform future NIAMS research funding prioritization.

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Increased news coverage of the risks of indoor tanning after the California indoor tanning ban for minors

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Indoor tanning devices are a known carcinogen. Several states have passed laws banning minors from using them, and many other states are now weighing the benefits and costs of similar bans. Therefore, the objective of this study was to determine whether initial passage of the California indoor tanning ban for minors was associated with longer-term media coverage of skin cancer prevention and the risks associated with tanning beds. Articles from 31 English-language California newspapers between June 2010-May 2011 (PRE) and June 2011-May 2012 (POST) were searched using terms related to skin protection. 90 articles with a major theme of skin protection were found for in-depth coding and analysis. The main outcome analysis compared PRE and POST number/percentage of skin protection articles – in total, that mention risks of indoor tanning, and that mention skin cancer prevention and sunscreen-specific recommendations. There were almost twice as many skin protection articles in the POST period as there were in the PRE period (57 vs 33; P<.05). In addition, there were more than three times as many POST articles mentioning the risks of indoor tanning (33 vs 10; P<.001). A POST article was almost twice as likely to mention the risks (58% vs 30%; P<.05). Even excluding all articles with a main focus on new laws/policies, there was still a significantly greater number (16 vs 5; p<.05) and percentage (42% vs 18%; p<.05) of articles mentioning tanning beds risks in the POST period. Therefore, the California indoor tanning ban was associated with a lasting effect on journalists — even for articles unrelated to the legislation — that had the potential to increase awareness for all readers about the link between indoor tanning and skin cancer.

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Initial findings for the effectiveness of using IVIG to treat Stevens-Johnson syndrome and toxic epidermal necrolysis

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This is a retrospective review of adult patients diagnosed with SJS, SJS/TEN, and TEN at two large Boston medical centers over close to 10 years. Both institutions are large academic medical centers, contain a burn center and share the same dermatology residents, but only one site (Site 2) utilizes IVIG, either alone or in combination with systemic steroids. Chart review assessed treatment course and outcome up to three months after discharge. 73 patients met inclusion criteria, with 51 (69.9%) patients from Site 1 and 22 (30.1%) patients from Site 2. The overall Site 1 mortality was 23.5%. 66.7% of patients who died had received oral steroids, the remainder were treated with supportive care. 71.4% of TEN patients at Site 1 who died had received oral steroids. The mortality rate for TEN patients treated with systemic steroids was 38.5%. The overall mortality rate at Site 2 was 22.7%. Of these patients, 60.0% had received only IVIG, 20.0% had received only oral steroids, and 20.0% had received both IVIG and oral steroids. There was a 33.3% mortality among TEN patients at Site 2 who were treated with IVIG alone and a 25.0% mortality among patients treated with both IVIG and steroids. 50.0% of TEN patients treated at Site 2 who died received IVIG alone and 50.0% were treated with both IVIG and oral steroids. Only one TEN patient at site 2 was treated with oral steroids alone, and survived. 39.2% received supportive care alone at Site 1 with four deaths. 13.6% of patients at site 2 received supportive care with no deaths. These findings suggest that patients treated with IVIG alone or in combination with oral steroids may be associated with improved rates of survival when compared to oral steroid treatment alone, however supportive care may be efficacious as well. This study is limited by its small size and retrospective nature. Similar large multicenter investigations are needed.

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Underestimating disease burden: Trends in basal cell carcinoma incidence rates

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The incidence of basal cell carcinoma (BCC) has been dramatically increasing globally, but incidence rates in the United States are largely unknown because BCCs are not reportable tumors. We sought to report annual BCC incidence and percent change over time using a previously validated BCC registry based on electronic pathology reports from Kaiser Permanente Northern California (KPNC). BCCs were identified from a validated KPNC BCC Registry using electronic pathology reports from 1998-2012. Age-and sex-standardized incidence rate (IRs) were calculated based on US 2000 census data. The overall BCC IR at KPNC steadily increased from a 418/100,000 person-years in 1998 to 535/100,000 in 2012. The overall standardized incidence rate for BCCs in the US population for 2012 was 448/100,000, much higher than previously reported estimates. The rate of increase of BCC incidence was steepest for men and those greater than age 80. There was no significant change in BCC incidence among those <40 and of non-white race during the study period. BCCs and their treatment pose an increasing burden to the healthcare system. Our study allows for a more accurate estimate of the incidence and disease burden of BCCs and their changing epidemiology.